

## REMARKS BY THE AGRICULTURAL DEPARTMENT, BEHAR.

1	2	3	4	5	6	7	8
District.	Sub-division.	Total area of sub-division in square miles.	Total area estimated to be under cultivation in square miles.	Estimated area under winter rice, small or medium, in square miles.	Estimated outturn of this year's winter rice crop as given in annex.	Outturn of winter rice of previous year expressed in annas.	
Patna	Sudder	617	467	215	14 annas	10 annas	<p>The rainfall in the Sudder sub-division was seasonable and sufficient. In July there was a slight deficiency (9.81 inches against a normal 11.79 inches), but the fall still sufficient for rice cultivation. A bumper crop would be reaped but for the fact that rain withheld altogether from the 24th of September to the 24th of October, i.e., during the <i>Katiga</i>, when it was urgently wanted. A 15-anna crop is a reasonable estimate.</p> <p>In the Dhanpore sub-division some damage was done by floods. The rainfall appears to have been slightly deficient in May—7.6 inches against 17.81 inches. This may have affected the rice crop to a slight extent. There was no rain during the last 10 days. Taking the above facts into consideration, the damage by flood, slight deficiency of rainfall in May, and drought in October, a 15-anna crop, as estimated by the Collector, may be accepted.</p> <p>In the Barh sub-division the conditions of rainfall were not altogether favourable. In August and September the fall was much below the average, only 11.66 inches against an average of 17.93 inches. In October want of rain was beginning to be felt, but timely showers fell on the 9th and 11th of the month. The Collector's estimate for this sub-division is a 14-anna crop.</p> <p>In the Behar sub-division the season was not altogether favourable; the fall was slightly deficient in May, and also in September and October. During the two latter months, 5.48 inches and 6.36 inches were recorded at Behar against the corresponding averages of 6.38 and 5.96 inches respectively. The drought which occurred during the <i>Katiga</i> was, however, partially relieved by rain on the 11th of October. The conditions of rainfall, as far as they can be judged from the meteorological returns, were only slightly, if at all, more unfavourable in the Behar than in the Barh sub-division. The Collector's estimate is, however, 11 annas for the Behar sub-division, which is 2 annas less than in the Barh sub-division.</p> <p>The Collector's first estimate for the whole district of Patna was a 15-anna crop; his present return is 13 annas, which may be accepted.</p>
	Madhwa	146	116	88	12 "	5 1/2 "	
	Barh	888	525	50	13 "	3 "	
	Behar	723	571	423	11 "	6 "	
	District Total	2,979	1,573	794	13 annas	6 annas	
Gya	Sudder	1,320	1,324	945	19 annas	6 annas	<p>Taking the district as a whole, the rainfall was deficient in May (7.90 inch against 17.74 inches). This deficiency affected the rice crop to a certain extent. Again there was no rain during the <i>Katiga</i>. Under the circumstances, a 13-anna crop, as estimated by the Collector, may be expected.</p>
	Aurangabad	1,340	747	328	12 "	9 "	
	Nowda	1,029	703	373	14 "	7 "	
	Jehanabad	607	503	325	12 "	6 "	
	District Total	4,712	3,449	2,078	12 to 13 annas	6 annas	
Bhahabad	Arrah	813	773	339-23	14 annas	13 annas	<p>The rainfall was deficient throughout the district in May and the early part of June, but the want of rain at sowing time is noticed by the Collector only in respect of Arrah and Bhahab sub-division. Again, in the latter part of September and in October there was no rain in most parts of the district. About an inch of rain was, however, recorded at Arrah, and a little less than half an inch at Bhahab. This probably prevented any loss of crop in the Arrah sub-division. No rain fell at Bhahab till the 23rd of October. The Collector's estimate of a 14-anna crop for the entire district may be accepted.</p> <p>The rains which fell in the 4th week of October and early in November appear to have benefited the crop. In the middle of November, the rainfall exceeded the average at many stations, but was not so heavy as to injure the crop. It is probable that the late varieties of rice which were yet green and fresh were benefited.</p>
	Bazar	806	503	232	14 "	12 "	
	Bhahab	1,391	970	438	14 "	10 "	
	Samaran	1,408	667	374	14 "	10 "	
	District Total	4,308	2,901	1,312-35	14 annas	11 annas	
Darbhanga	Sudder	1,323	369	665	17 annas	6 annas	<p>A 17-anna crop is expected in the district. The season was, as the Collector observes, very favourable to the rice crop excepting during the <i>Katiga</i>, when rain was wanting. Some rain fell, however, in the Sudder, Tajpore, and probably in the Madhubani sub-divisions early in October. The abnormal rains which fell in the middle of November over Orissa and Central Bengal were practically not felt in North Behar.</p>
	Tajpore	704	640	211	18 "	10 "	
	Madhubani	1,319	1,015	779	18 "	6 "	
	District Total	2,796	2,003	1,515	17 annas	7 annas	

The rainfall in May was deficient (41 inch against 43½ inches). The Collector does not notice whether this affected the rice crop in any way. Subsequently the rainfall was sufficient, and even in excess of the normal till the third week of September, since which time there was no rain till the middle of November. The absence of rain during the *haris* has affected the crop throughout the district. The damage was further aggravated by floods in the Sudder and Rajshahi sub-divisions. Leaving out of consideration the deficiency in May, which cannot do much harm if closely followed by sufficient rain in June, the rainfall was wholly favourable, and a full average, if not a bumper crop would have been reaped but for the failure of *haris* rain. The Collector's estimate of the crop at 14 annas appears reasonable. There was very little rain in the middle of November (11 inch), and it cannot have affected the crop in any great extent.

The conditions of rainfall in Saran were very similar to those in Mounierpur. The rain which fell in the third week of November appears to have done good to the rice crop, as the Collector's present estimate is a full 14-anna crop.

The conditions of rainfall in Champaran were similar to those in the two preceding districts. In August, however, the fall was short of the average (6·27 inches against 12·14 inches). This would appear to have interfered with transplanting operations, but no mention of this is made in the reports. Want of rain in October was greatly felt. The Collector's estimate of a 14-anna crop seems to be a little above the mark.

The rainfall in this district was very favourable except at the close of the season. In the last week of September and the whole of October, there was no rain in the district with the exception of Begunah, where a slight fall (4½ inch) on the 11th and 12th of October must have done good to the crop. The Collector estimates the outturn at 16 annas in this sub-division, and 13 annas and 14 annas respectively in the Sudder and Jammal sub-divisions, the average for the whole district being 14 annas. The fall in November was very slight—only 12 inch.

In South Bhagulpore, including the Sudder and Banka sub-divisions, the Collector's estimate is an 11-anna crop. The short harvest is attributed by him to deficiency of rainfall at the time of transplanting. There was a deficient fall in August (6·6 inches against 12·23 inches), which must have affected the crop to a certain extent; but as it was preceded by good rain in July and followed by a copious fall in excess of the normal in September, the loss on this account could not have been as high as 3 annas. There was general absence of rain in the latter part of September and in October, and to this cause the short outturn is mainly due.

In North Bhagulpore, including the Madhepura and Soopole sub-divisions, the fall was abundant in M-y, but considerably in excess of the normal in June, July, August and September. To this excess the Collector attributes some loss in the Soopole sub-division. In October the fall was sufficient in the Madhepura sub-division, but very deficient in Soopole. A 14-anna crop was estimated by the Collector, but he is of opinion that in Madhepura, but it may be doubted whether a 14-anna crop will be reaped in Soopole.

The rainfall was favourable at every stage of paddy cultivation. The general absence of rain during the *haris*, complained of from most districts of Bihar, was not felt in Patna. In the Sudder sub-division loss to the extent of 4 annas is said to have been done by floods on the other hand, early floods did good to the crop in the Araria sub-division. No rain fell in November in this district. The outturn for the whole district is estimated at 15 annas.

The rainfall appears to have been very deficient from May to August, only 70 inch being recorded in May against a normal 43 inches, and only 12·7 inches in July and August against 22·33 inches. Although the fall in September was in excess of the normal, the deficiency in the previous months must have seriously affected the crop. The Collector, however, makes no remarks on this point, and estimates the outturn at 16 annas.

1880	1881	1882	1883	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	2101	2102	2103	2104	2105	2106	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123	2124	2125	2126	2127	2128	2129	2130	2131	2132	2133	2134	2135	2136	2137	2138	2139	2140	2141	2142	2143	2144	2145	2146	2147	2148	2149	2150	2151	2152	2153	2154	2155	2156	2157	2158	2159	2160	2161	2162	2163	2164	2165	2166	2167	2168	2169	2170	2171	2172	2173	2174	2175	2176	2177	2178	2179	2180	2181	2182	2183	2184	2185	2186	2187	2188	2189	2190	2191	2192	2193	2194	2195	2196	2197	2198	2199	2200	2201	2202	2203	2204	2205	2206	2207	2208	2209	2210	2211	2212	2213	2214	2215	2216	2217	2218	2219	2220	2221	2222	2223	2224	2225	2226	2227	2228	2229	2230	2231	2232	2233	2234	2235	2236	2237	2238	2239	2240	2241	2242	2243	2244	2245	2246	2247	2248	2249	2250	2251	2252	2253	2254	2255	2256	2257	2258	2259	2260	2261	2262	2263	2264	2265	2266	2267	2268	2269	2270	2271	2272	2273	2274	2275	2276	2277	2278	2279	2280	2281	2282	2283	2284	2285	2286	2287	2288	2289	2290	2291	2292	2293	2294	2295	2296	2297	2298	2299	2300	2301	2302	2303	2304	2305	2306	2307	2308	2309	2310	2311	2312	2313	2314	2315	2316	2317	2318	2319	2320	2321	2322	2323	2324	2325	2326	2327	2328	2329	2330	2331	2332	2333	2334	2335	2336	2337	2338	2339	2340	2341	2342	2343	2344	2345	2346	2347	2348	2349	2350	2351	2352	2353	2354	2355	2356	2357	2358	2359	2360	2361	2362	2363	2364	2365	2366	2367	2368	2369	2370	2371	2372	2373	2374	2375	2376	2377	2378	2379	2380	2381	2382	2383	2384	2385	2386	2387	2388	2389	2390	2391	2392	2393	2394	2395	2396	2397	2398	2399	2400	2401	2402	2403	2404	2405	2406	2407	2408	2409	2410	2411	2412	2413	2414	2415	2416	2417	2418	2419	2420	2421	2422	2423	2424	2425	2426	2427	2428	2429	2430	2431	2432	2433	2434	2435	2436	2437	2438	2439	2440	2441	2442	2443	2444	2445	2446	2447	2448	2449	2450	2451	2452	2453	2454	2455	2456	2457	2458	2459	2460	2461	2462	2463	2464	2465	2466	2467	2468	2469	2470	2471	2472	2473	2474	2475	2476	2477	2478	2479	2480	2481	2482	2483	2484	2485	2486	2487	2488	2489	2490	2491	2492	2493	2494	2495	2496	2497	2498	2499	2500	2501	2502	2503	2504	2505	2506	2507	2508	2509	2510	2511	2512	2513	2514	2515	2516	2517	2518	2519	2520	2521	2522	2523	2524	2525	2526	2527	2528	2529	2530	2531	2532	2533	2534	2535	2536	2537	2538	2539	2540	2541	2542	2543	2544	2545	2546	2547	2548	2549	2550	2551	2552	2553	2554	2555	2556	2557	2558	2559	2560	2561	2562	2563	2564	2565	2566	2567	2568	2569	2570	2571	2572	2573	2574	2575	2576	2577	2578	2579	2580	2581	2582	2583	2584	2585	2586	2587	2588	2589	2590	2591	2592	2593	2594	2595	2596	2597	2598	2599	2600	2601	2602	2603	2604	2605	2606	2607	2608	2609	2610	2611	2612	2613	2614	2615	2616	2617	2618	2619	2620	2621	2622	2623	2624	2625	2626	2627	2628	2629	2630	2631	2632	2633	2634	2635	2636	2637	2638	2639	2640	2641	2642	2643	2644	2645	2646	2647	2648	2649	2650	2651	2652	2653	2654	2655	2656	2657	2658	2659	2660	2661	2662	2663	2664	2665	2666	2667	2668	2669	2670	2671	2672	2673	2674	2675	2676	2677	2678	2679	2680	2681	2682	2683	2684	2685	2686	2687	2688	2689	2690	2691	2692	2693	2694	2695	2696	2697	2698	2699	2700	2701	2702	2703	2704	2705	2706	2707	2708	2709	2710	2711	2712	2713	2714	2715	2716	2717	2718	2719	2720	2721	2722	2723	2724	2725	2726	2727	2728	2729	2730	2731	2732	2733	2734	2735	2736	2737	2738	2739	2740	2741	2742	2743	2744	2745	2746	2747	2748	2749	2750	2751	2752	2753	2754	2755	2756	2757	2758	2759	2760	2761	2762	2763	2764	2765	2766	2767	2768	2769	2770	2771	2772	2773	2774	2775	2776	2777	2778	2779	2780	2781	2782	2783	2784	2785	2786	2787	2788	2789	2790	2791	2792	2793	2794	2795	2796	2797	2798	2799	2800	2801	2802	2803	2804	2805	2806	2807	2808	2809	2810	2811	2812	2813	2814	2815	2816	2817	2818	2819	2820	2821	2822	2823	2824	2825	2826	2827	2828	2829	2830	2831	2832	2833	2834	2835	2836	2837	2838	2839	2840	2841	2842	2843	2844	2845	2846	2847	2848	2849	2850	2851	2852	2853	2854	2855	2856	2857	2858	2859	2860	2861	2862	2863	2864	2865	2866	2867	2868	2869	2870	2871	2872	2873	2874	2875	2876	2877	2878	2879	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## REMARKS BY THE AGRICULTURAL DEPARTMENT, BENGAL.

1	2	3	4	5	6	7	8
District.	Sub-division.	Total area of sub-division in square miles.	Total area estimated to be under cultivation in square miles.	Estimated area under winter rice, wheat or other crops by month in square miles.	Estimated outturn of this year's winter rice crop expressed in annas.	Outturn of winter rice of previous year expressed in annas.	
Southal Pergunah.	Dumka	1,409	708	254	15 annas	15 annas	<p>The rainfall was sufficient and seasonable throughout. In August there was a slight deficiency (5.41 inches against 13.79 inches), but in July and September there was excess of rain. The Deputy Commissioner's remark that the rice crop has suffered from deficiency of rain after transplantation is not borne out by the records of rainfall. In October the rainfall closely agreed with the normal. The Collector estimates the yield at 14 to 15 annas.</p>
	Deoghat	808	399	108	16 "	16 "	
	Godda	808	476	381	15 "	15 "	
	Rajmahal	740	358	409	16 "	16 "	
	Jamtara	600	349	190	13 "	13 "	
	Fakour	603	311	419	16 "	16 "	
	District Total	5,964	3,027	1,403	14 annas	15 annas	
Cuttack.	Sudder	909	508	419	16 annas	16 annas	<p>The rainfall appears to have been very seasonable. In September the fall was apparently deficient (5.94 inches against 9.83 inches), but the deficiency was in the latter half of the month when rain was not required. The rainfall between the 14th and 21st November was abnormally heavy, and a storm occurred on the 26th, which did some harm to grain rice, but the injury was not serious. In August, the Superintendent of the Tributary Mohals estimates the outturn at 13 annas.</p>
	Banki	116	62	26	16 "	16 "	
	Kendrapara	1,451	801	640	16 "	16 "	
	Jajpur	1,104	500	439	16 "	16 "	
	Angul	9,030	1,899	1,537	16 annas	16 annas	
	District Total	13,510	7,770	6,031	16 annas	16 annas	
	Sudder	1,150	670	559	16 annas	16 annas	
Balasore.	Bhadra	904	720	600	13 annas	13 annas	<p>The two sub-divisions of this district have differed greatly in respect of rainfall. In the Bhadrach sub-division, the season was altogether favourable, and a full average crop would be raised were it not for the occurrence of a cyclone on November 26th. In the Sudder sub-division, on the other hand, the fall, as the Collector remarks, was singularly deficient in the period from June to September, as the following figures will show:—</p>
	District Total	2,054	1,390	1,160	About 11 annas	About 10 annas.	
	Sudder	1,150	720	559	16 annas	16 annas	
	Bhadra	904	670	600	13 annas	13 annas	
	District Total	2,054	1,390	1,160	About 11 annas	About 10 annas.	
	Sudder	1,150	720	559	16 annas	16 annas	
	Bhadra	904	670	600	13 annas	13 annas	
Purba.	Khoorda	904	670	600	13 annas	13 annas	<p>Under the circumstances a better crop than 11 annas, as estimated by the Collector, cannot be hoped for. During the November cyclone, 4.23 inches of rain fell in three days. This damaged the crop to the extent of 2 to 3 annas; so that in this sub-division it may be apprehended there may be lightness. Last year also the crop was a short one (9 annas). The rainfall was very similar to that of Cuttack. In May the fall was somewhat deficient and late, but the Collector remarks the deficiency was made up by good rainfall afterwards. The excess of rain recorded in October (15.28 inches against 7.25 inches) affected the early varieties of paddy to some extent as it did in Cuttack. The Collector's first estimate was 10 annas, but the heavy cyclonic showers which fell in November seriously changed the aspect of the harvest. 11.74 inches of rain fell in this month against an average fall of 1.00 inch. The Collector reports that the loss from the heavy rains of November and from subversion of land is 3 annas. If this be correct, the outturn will be 14 annas.</p>
	District Total	2,054	1,390	1,160	About 11 annas	About 10 annas.	
	Sudder	1,150	720	559	16 annas	16 annas	
	Khoorda	904	670	600	13 annas	13 annas	
	District Total	2,054	1,390	1,160	About 11 annas	About 10 annas.	
	Sudder	1,150	720	559	16 annas	16 annas	
	Khoorda	904	670	600	13 annas	13 annas	

	Actual fall.	Normal fall.
	Inches.	Inches.
June	...	...
July	...	...
August	...	...
September	...	...
	59.71	48.95







DIVISION.	District.	MAY.		JUNE.		JULY.		AUGUST.		SEPTEMBER.		OCTOBER.		NOVEMBER.	
		Normal average.	Actual rainfall.	Normal average.	Actual rainfall.	Normal average.	Actual rainfall.	Normal average.	Actual rainfall.	Normal average.	Actual rainfall.	Normal average.	Actual rainfall.	Normal average.	Actual rainfall.
Burdwan	Burdwan	5.61	5.50	9.25	10.19	11.80	8.43	12.36	8.90	7.87	8.60	4.18	1.77	0.42	0.76
	Bankura	4.05	3.45	9.56	15.44	12.12	11.20	13.78	8.76	8.65	8.77	3.61	0.55	3.85	3.85
	Hooghly	3.40	4.15	9.10	12.25	12.81	10.00	13.67	8.09	9.10	9.07	3.41	0.85	0.21	3.45
	Midnapore	5.05	2.45	9.09	9.88	18.76	8.24	13.35	12.00	8.82	7.14	5.26	1.60	0.46	4.24
	Howrah	5.34	1.78	9.75	11.73	12.74	9.05	14.21	8.18	8.41	6.10	4.07	3.89	0.35	2.87
Presidency	54-Pergunnahs	8.79	8.22	9.83	14.84	12.07	11.80	12.72	10.30	9.01	7.47	4.40	7.78	0.40	3.80
	Khoolna	6.93	6.19	12.44	12.20	13.45	16.30	12.45	9.33	9.23	7.34	4.02	10.40	0.48	3.53
	Nuddam	6.50	2.38	9.02	11.27	10.48	8.03	12.19	8.72	8.52	9.58	4.17	4.19	0.20	7.60
	Jessore	7.41	2.97	12.10	13.97	11.53	9.00	11.54	7.75	6.45	7.14	4.45	7.25	0.40	7.08
	Mooredahad	8.21	8.46	9.05	11.09	11.00	10.25	11.79	9.67	9.77	11.40	4.37	1.38	0.28	3.68
Rajahmundry	Dinapore	6.45	6.73	13.25	17.41	12.14	10.83	11.67	9.10	11.17	17.21	3.44	1.70	0.13	0.23
	Rajahmundry	6.00	1.47	10.26	15.39	11.82	11.77	11.48	8.61	11.20	18.89	4.33	1.99	0.19	2.09
	Rajahmundry	11.24	3.90	9.49	10.26	13.90	10.80	12.35	12.12	18.05	15.61	4.46	1.05	0.18	0.5
	Borra	7.91	1.50	15.11	23.69	13.69	11.70	11.51	9.42	10.70	17.10	4.34	2.35	0.40	1.04
	Puducherry	7.11	5.94	11.22	14.39	16.83	9.10	11.55	8.49	10.27	8.64	4.43	5.00	0.35	5.07
Dacca	Dacca	7.70	4.84	24.02	29.30	20.30	20.30	26.07	17.55	17.42	14.15	6.19	2.98	0.28	0.61
	Dacca	11.96	6.20	29.12	33.81	28.00	26.28	25.91	23.17	23.59	20.12	5.25	1.35	0.10	0.38
	Dacca	8.70	8.10	12.91	31.22	18.94	14.39	12.38	18.51	10.06	8.21	4.61	7.37	0.61	4.53
	Dacca	8.80	3.20	12.61	18.19	12.49	10.74	12.08	10.94	8.08	6.21	4.24	6.52	0.44	6.55
	Dacca	7.80	3.20	18.06	20.32	18.78	18.06	16.14	16.57	11.56	9.18	5.02	9.00	1.20	2.6
Chittagong	Chittagong	9.24	8.6	17.42	20.53	18.58	18.59	14.07	16.03	13.94	18.54	5.28	7.19	0.34	1.78
	Chittagong	10.21	6.93	17.31	18.09	15.27	10.25	10.37	7.26	11.58	9.51	5.26	8.27	0.79	2.71
	Chittagong	16.85	6.85	24.18	33.58	21.82	22.06	23.40	21.54	10.20	10.59	7.37	8.44	2.50	2.99
	Chittagong	6.84	9.28	30.32	20.76	28.52	28.05	23.40	29.13	14.07	10.08	6.60	5.90	2.06	1.35
	Chittagong	...	...	...	...	...	...	...	...	...	...	...	...	1.91	4.38
Patna	Patna	2.18	2.34	5.95	11.26	12.12	10.00	10.56	12.80	7.20	8.84	2.07	0.26	0.22	0.19
	Patna	1.74	0.20	5.12	9.29	11.83	10.00	11.71	12.29	6.90	4.55	2.54	0.26	0.23	0.24
	Patna	1.26	0.20	5.20	5.03	11.07	10.78	11.40	14.67	7.29	5.23	2.19	1.08	0.28	3.08
	Patna	2.69	1.61	8.00	11.82	11.00	13.80	10.71	11.05	9.25	13.94	2.71	0.22	0.06	0.01
	Patna	2.51	0.61	7.08	14.00	11.20	12.31	10.11	8.81	6.27	12.41	3.03	Nil	0.07	0.21
Bhagalpur	Bhagalpur	1.92	0.00	6.39	8.95	11.41	11.85	10.21	7.08	7.08	10.00	3.74	Nil	0.14	1.04
	Bhagalpur	2.90	0.15	8.31	17.70	12.12	20.18	12.18	6.27	9.03	12.62	5.40	0.16	0.04	0.07
	Bhagalpur	3.34	1.00	6.58	9.88	11.80	16.51	11.21	8.07	7.75	11.58	3.13	0.09	0.22	0.10
	Bhagalpur	3.90	1.28	8.71	14.51	11.61	16.25	11.87	15.43	9.71	10.61	3.55	0.66	0.10	Nil
	Bhagalpur	2.64	1.42	7.77	11.80	16.91	10.22	11.23	6.07	7.98	10.21	3.04	0.26	0.15	0.15
Orissa	Orissa	5.60	2.97	12.98	20.04	15.47	3.32	14.83	11.54	13.53	21.64	3.46	0.70	0.21	Nil
	Orissa	4.60	0.70	10.00	7.98	11.20	8.71	12.00	6.00	10.55	19.82	3.02	2.06	0.23	0.47
	Orissa	3.73	2.02	8.59	11.23	12.97	15.81	12.79	8.41	8.94	12.33	3.65	3.48	0.20	1.70
	Orissa	3.05	3.34	9.75	13.97	12.20	14.94	12.29	12.07	8.53	8.06	5.60	8.56	1.09	9.35
	Orissa	4.95	4.29	8.25	5.97	12.20	8.63	11.77	10.74	11.15	6.35	5.26	7.93	6.02	6.04
Chota Nagpore	Chota Nagpore	2.76	1.13	7.80	13.03	10.65	11.89	11.40	10.98	9.08	9.07	7.43	11.06	2.04	14.04
	Chota Nagpore	2.25	1.20	7.20	7.13	13.10	11.06	15.07	13.55	8.10	7.06	5.26	2.03	0.28	1.28
	Chota Nagpore	2.35	1.08	7.00	7.44	15.94	8.98	12.51	12.94	8.56	5.56	5.47	5.41	0.41	0.97
	Chota Nagpore	3.25	1.87	8.42	10.29	11.53	10.27	12.87	7.92	7.68	7.33	3.68	1.69	0.15	2.05
	Chota Nagpore	4.17	1.26	8.91	16.37	14.00	8.79	13.76	22.00	8.56	2.81	5.94	5.84	0.24	2.44

**RESOLUTION ON THE ADMINISTRATION REPORT OF THE  
HOOGHLY BRIDGE FOR THE YEAR ENDING  
THE 31ST MARCH 1889.**

GOVERNMENT OF BENGAL—PUBLIC WORKS DEPARTMENT.

Marine.

No. 2907 Mue., Calcutta, the 30th December 1889.

RESOLUTION.

READ—

Administration Report of the Hooghly Bridge for the year ending the 31st March 1889.

Read again—

Public Works (Marine) Proceedings (A) for February 1889, Nos. 4 to 6, being the Administration Report of the Hooghly Bridge for 1887-88, together with the Resolution recorded thereon.

It was stated in the Resolution on the Administration Report of the Bridge for the last year that the Commissioners had paid off the whole of the Bridge debt due to Government. The only liability in the form of debt due from the Bridge Trust is a sum of Rs. 1,77,031, representing the portion of the capital chargeable to the Bridge in respect of the expenditure made from the proceeds of loans raised for the construction or acquisition of certain works and property designed for the joint use of the Port and Bridge Trusts. The annual charge for interest and sinking fund on this account amounts to Rs. 10,856.

2. The following table shows the actual receipts and expenditure of the Bridge during the year 1888-89, as compared with the estimated amounts, and also the actual income and expenditure of the previous nine years:—

PARTICULARS.	1888-89.		1887-88.	1886-87.	1885-86.	1884-85.	1883-84.	1882-83.	1881-82.	1880-81.	1879-80.
	Esti- mated.	Actual.									
RECEIPTS.											
Receipts from railway traffic	1,24,973	1,28,985	2,01,538	4,02,405	3,53,210	2,80,123	3,70,501	3,25,556	3,00,038	2,55,251	2,40,306
Ditto local ditto	95,757	94,000	1,27,253	1,40,740	1,40,987	1,28,301	1,22,200	1,11,813	1,10,959	99,997	1,00,344
Ditto hire of steamer <i>Helvetia</i>	1,000	995	49	489	40	446	957	2,210	1,951	3,032	2,218
Receipts from hire of steamer <i>Howrah</i> or <i>Buckland</i>		27	133			100		1,841	4,709	6,211	9,740
Interest on Government securities	26,566	26,566	24,050	42,048	29,763	22,174	22,174	21,689	12,060	11,062	11,606
Proportion of rent of Head Office	523	487	528	528	523	527	574	590	653	682	685
Sale of engines and boilers of steam ferry <i>Howrah</i>										4,537	
Miscellaneous		2,006	612	737	646	814	221	942	1,102	363	310
Proportion of earnings of steam-tug <i>Holly</i>	19,000	8,515	13,038	9,303	11,102	17,372	11,088	21,641	13,236	13,636	
Rent of Bridge approach land	2,859	3,046	2,083	1,670	2,011	1,357					
Total	2,50,678	2,64,716	4,00,260	5,99,236	5,30,012	4,00,416	5,30,696	4,85,651	4,54,627	3,93,741	3,74,226
EXPENDITURE.											
Interest on loans		7,679	9,400	43,989	29,839	27,092	64,094	76,970	81,788	84,319	87,522
Proportion of salaries—Control	11,071	10,709	10,308	12,860	12,733	11,459	12,018	10,402	10,560	11,668	10,723
Salaries	83,400	32,591	22,853	32,710	32,254	31,764	31,594	32,114	31,734	31,034	20,945
Working expenses	34,000	42,798	18,800	14,045	16,872	14,270	13,056	11,467	13,863	19,157	13,384
Repairs	32,500	42,617	38,962	30,073	29,213	47,500	32,187	34,137	32,412	15,815	18,295
Steamer <i>Howrah</i> or <i>Buckland</i>	18,748	19,751	14,879	16,347	16,464	16,979	13,646	14,883	19,040	23,646	13,633
Proportion of municipal taxes of officers' quarters, storeyard, and police quarters	7,409										
Miscellaneous		7,852	8,171	9,618	9,930	10,800	8,141	1,499	1,644		1,474
Proportion of establishment, &c., of steam-tug <i>Holly</i>	1,300	10,500	11,000	12,231	10,632	10,601	11,354	11,290	12,064	8,309	479
Contribution for overbridge at Howrah									25,000		
Renewals	27,000	25,094	7,946	2,615	7,008	14,623	2,400	2,674	5,645		
Proportion of salary of Traffic Manager	4,000	8,000	4,000								
Total	1,75,910	2,04,241	1,82,907	1,87,031	2,14,923	1,90,346	1,91,721	1,94,545	2,34,152	2,00,019	1,81,286
Net revenue		60,475	3,07,353	4,11,205	3,15,087	2,70,070	3,44,974	2,91,136	2,20,475	1,93,722	1,92,940
GRAND TOTAL		2,64,716	4,80,260	5,98,236	5,30,012	4,80,416	5,36,696	4,86,651	4,54,627	3,93,741	3,74,226

3. The receipts from railway traffic during the last ten years are analysed in the following statement:—

	1888-89.	1887-88.	1886-87.	1885-86.	1884-85.	1883-84.	1882-83.	1881-82.	1880-81.	1879-80.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Goods at Rs. 1 per 100 mounds.	1,30,508	2,73,308	3,88,982	3,36,452	2,71,166	3,60,169	2,60,013	2,94,963	2,42,033	2,27,493
Passengers at 3 pice each	1,905	17,400	10,854	16,060	17,403	18,236	15,955	15,374	12,418	12,304
Animals	416	720	721	640	489	80	480	427	200	250
Vehicles	58	72	58	62	67	620	78	74	600	64
<b>Total</b>	<b>1,32,887</b>	<b>2,91,500</b>	<b>4,00,625</b>	<b>3,53,210</b>	<b>2,90,123</b>	<b>3,79,501</b>	<b>3,25,556</b>	<b>3,10,038</b>	<b>2,54,250</b>	<b>2,40,306</b>

4. Consequent upon the repayment of the debt due to Government, and the accumulation of the Reserve Fund, very important alterations were made in 1888-89 in the financial administration of the Bridge, resulting in a considerable reduction in the receipts. Previous to the 1st of April 1888, only two staples of traffic to Howrah, coal and wheat, had been exempted from the terminal charge. From that date rice, grain, pulses, seeds and salt were exempted, according to the recommendations made by the Committee appointed by Government in January 1888 to take into consideration the scale of fees and tolls to be adopted to cover the cost of the future maintenance of the Bridge. The Committee estimated that the terminal charges that would continue to be levied on the Bridge after the exemption of the above articles would bring in a revenue of Rs. 1,16,000. The actual figures given above show the income to have been Rs. 1,28,985; but the effect of the abolition was not felt during the first month of the year, as that month showed the payments to credit of the Bridge account of terminal charges levied on goods during March 1888, before the staples named above were exempted. Taking away the amount so collected in March from staples subsequently exempted, the income of the year from this source would be reduced to Rs. 1,14,728.

5. The receipts from local traffic included only the collections of the months from April to December, as the Bridge was declared free for local traffic from the 1st of January 1889.

6. There has been an increase of expenditure under the heads "Working expenses," "Repairs," and "Renewals." Before the Commissioners surrendered the income from local tolls, they considered it advisable to make provision for putting the Bridge in thorough repair, and for completing its equipment



by providing spare mooring material. A sum of Rs. 27,588 was spent on anchors and chains and charged to "Working expenses," and this accounts for the entire excess expenditure under this head; while against the grant for "Repairs," the drafts for cost of 113 out of 250 tons of Johore teak battens were charged off in 1888-89. The balance has since been paid for, and there are now in stock sufficient materials to completely renew the whole wearing surface of the Bridge. The expenditure on account of the maintenance and repair of the ferry steamer *Buckland* and the flat *Howrah* has been in excess of the average, the increase being due to the *Buckland* being fitted with steam steering gear, and the flat *Howrah* having undergone extensive repairs. The large expenditure under the head "Renewals" was due to the fact that the new pontoon provided for in the estimates for 1887-88 was not sent out until late in 1888, and the expenditure had therefore to be met in 1888-89.

7. It will be seen from the statement of receipts and expenditure given above that the net revenue of the year under review amounted to Rs. 60,475, making, with the net revenue of previous years, a total net revenue of Rs. 34,00,503, earned during the fourteen years the Bridge has been open for traffic.

8. The following statement shows how the entire net revenue has been appropriated:—

	To end of 1887-88. Rs.	In 1888-89. Rs.	Total. Rs.
Sinking fund paid to Government on the Bridge debt ...	22,41,800	.....	22,41,800
Proportion of sinking fund on consolidated loan due to Government for Head Office and officers' quarters paid to Government ...	9,888	1,045	10,933
Proportion of sinking fund on debenture loans set aside with the Trustees of the Commissioners' Debenture Loan Account ...	11,944	2,152	14,096
Reserve Fund ...	5,21,445	2,50,533	7,71,978
Contribution for the following new works as detailed in Report for 1884-85:—			
Flat <i>Howrah</i> ...	20,000		
Reserve Section ...	8,000		
Tug steamer <i>Hetty</i> ...	1,35,642		
Ferry steamer <i>Buckland</i> ...	1,23,374		
Police quarters ...	16,573		
Office machinery and tools for workshop	13,321		
Gearing for drawbridge ...	891		
Two iron buoy boats for floating fenders	2,424	.....	3,20,225
	31,05,302	2,53,730	33,59,032
Balance ...			41,471
Total ...			34,00,503

9. In the Resolution on last year's Administration Report allusion was made to some of the recommendations of the Committee appointed to consider the revised scale of tolls and fees to be levied on the Bridge, and to the orders which had been passed on the same. As mentioned, a part of the Committee's scheme was to give out of the balance at credit of the Bridge account a sum of Rs. 2,00,000 as a contribution towards the construction by the Corporation of Calcutta of a new road from the Bridge to Sealdah. This excess balance over the requirements of the Reserve Fund, which had been fixed by Government, after consultation with the Commissioners, at 5½ lakhs of rupees, was due to the continuance of the local tolls and terminal charges after the extinction of the Bridge debt, and the accumulation of the required Reserve Fund, for which purposes those tolls and charges had been framed. The debt was paid off and the fund accumulated by June 1887, but the tolls continued to be charged till the 31st December 1888. The Government of India, however, objected to this contribution, and in consequence of the orders of that Government upon this proposal the addition to the reserve shown in the foregoing statement was made. The Corporation was still of opinion that the construction of this road was absolutely necessary for the purpose of giving greater facilities to the traffic that exists between the two places. The Lieutenant-



Governor has sanctioned the construction of this road, and the Government of India have sanctioned the raising of a loan by the Corporation not exceeding 50 lakhs, by way of debenture, on the security of the rates and taxes levied under Act II (B.C.) of 1888. The improvement which such a road would effect, and the relief it would afford to the Strand Road traffic, north and south of the Bridge, to the advantage of the traffic from the jetties and wharves, were self-evident, and on a fresh representation being made to the Government of India, that Government, though refusing to sanction legislation for the purpose of enabling the Port Commissioners to contribute the sum of Rs. 2,00,000 towards the construction of the road as proposed by the Committee, raised no objection to the Commissioners lending that sum to the Corporation of Calcutta for three years, without interest, for payment of interest on the loan to be raised for the construction of the road. An Act [Act III (B.C.) of 1889] investing the Commissioners with power to lend this amount to the Corporation of Calcutta on the terms stated has accordingly been passed. The other recommendations of the Committee on tolls and fees have been adopted and approved by Government.

10. The Bridge was kept in thorough working order during the year. The new pontoon, referred to in paragraph 6, was received from England, and put together in the Commissioners' dry dock. On completion, the defective pontoon at the west side of the sixty feet opening was drawn out, and the new one fixed in position. On examination of the defective pontoon it was found that there had been no deterioration in the material, and the only cause which could be assigned for its collapse was that the work of putting the pontoons together originally in 1873-74 was distributed over different yards, and there must have been some defective work in the erection of this particular pontoon.

11. On the 13th December 1888, the Hon'ble Sir Charles Elliot, C.S.I., C.S., and Colonel R. Home, R.E., C.I.E., inspected the pontoons, superstructure, reserve section, and all spare material in stock. While expressing satisfaction at the condition in which everything was found, they expressed an opinion that provision should be made for further renewal of the pontoons. Although the one mentioned in the last paragraph was the first one to give out in fourteen years, the Commissioners have considered it advisable to appropriate annually a portion of whatever surplus revenue the accounts may show towards the purchase of new pontoons.

12. The Bridge was open for the passage of vessels on 122 occasions, including 20 special Sunday openings. The number of vessels which passed through the opening is given in the following statement:—

	1888-89.	1887-88.	1886-87.	1885-86.	1884-85.	1883-84.	1882-83.	1881-82.
Sea-going vessels ...	380	331	295	366	403	469	442	413
Inland steamers and flats ...	878	899	843	1,102	944	733	664	629
Steam tugs ...	466	367	367	400	342	361	400	359
Port Commissioners' vessels ...	20	46	56	69	56	58	42	48
Government steamers and flats ...	7	6	10	6	10	...	...	...

13. No sea-going vessels collided with the Bridge in passing through the opening, but there were 91 collisions of other vessels, as compared with 63 during the previous year. One of the most disastrous was that of the Port Commissioners' steamer *Research* which collided with the Bridge on the 25th August 1888, resulting in the loss of two lives and the total loss of the vessel. Fifteen country and cargo-boats sank after collision, and on one of these occasions there was a loss of one life. Three steam launches also collided with the Bridge, two of which sank. The increase in the total number of collisions as compared with that of the preceding year was due to the unusually heavy freshets of the year. On one occasion (August 31st) it was found impossible to open at all on the advertised day, owing to the unusual strength of the tide, the Superintendent reporting that the attempt to open on that occasion was more than running a risk, it meant almost certainty of serious damage.

ORDER.—Ordered that a copy of this Resolution be forwarded to the Bridge Commissioners for information.

Ordered also that this Resolution be published in the Supplement to the *Calcutta Gazette* for general information.

By order of the Lieutenant-Governor of Bengal,

C. W. I. HARRISON,

Offg. Joint-Secretary to the Government of Bengal.

## Rainfall, Weather, and State and Prospects of the Crops.

Statement showing Rainfall, Weather, and State and Prospects of the Crops in the different districts of Bengal, as reported to Government, during the week ending the 28th December 1889.

No.	District and date of return.	Rainfall at Sudder Station in inches.	Character of the weather and state and prospects of the crops.
<b>BENGAL.</b>			
<i>Western Districts.</i>			
Burdwan Divn.	1 Burdwan Dec. 28, '89	Nil	Weather—rather warm. Harvesting of <i>amun</i> still going on. <i>Rabbi</i> crops not very good. Sugarcane is in good condition. State of potato fair. Prices of common rice:— <div style="float: right; text-align: right;"> Srs.  Burdwan ... .. 14½  Culina ... .. 13  Cutwa ... .. 14½  Ransegunge ... .. 16  } per rupee </div>
	2 Bankura „ 28, '89	Nil	Weather—hot for the season and occasionally cloudy. Harvesting of <i>amun</i> still continues in many places. Other crops doing well. Common rice selling at 21 seers per rupee at Sudder and 17½ seers at Bisanpore.
	3 Birbhum „ 28, '89	Nil	Weather—cloudy and rather warm for the season. <i>Amun</i> nearly reaped. Sugarcane in fine order. Winter crops doing well. Rice selling at 16 seers per rupee at S.ory and 17½ seers at Kampore Hat.
	4 Midnapur „ 28, '89	Nil	Weather—has been cloudy and heavy, and drizzling showers reported from the south. The rice harvest is still being gathered, and the outturn is good. Prices of rice:— <div style="float: right; text-align: right;"> Srs.  Sudder ... .. 15  Contal ... .. 15  Tunluk ... .. 18  Ghatal ... .. 18  } per rupee. </div>
	5 Hooghly „ 28, '89	Nil	Weather—very clear. Harvesting of <i>amun</i> almost completed. Prospects of <i>rabbi</i> favourable. Prices of common rice:— <div style="float: right; text-align: right;"> Srs.  Sudder ... .. 13  Serampore ... .. 11½  Jehanabad ... .. 16  } per rupee. </div>
Presidency Divn.	Howrah „ 28, '89	Nil	Weather—cloudy. <i>Amun</i> crop is being harvested. Prospects good. Price of common rice 12 seers per rupee.
	6 24-Pargana Dec. 28, '89	Drizzling.	Weather—fine. <i>Amun</i> cutting still going on with full vigour; outturn expected to be good. Standing <i>rabbi</i> crops doing well.
	7 Nuddea „ 28, '89	Nil	Weather—cloudy and warm. <i>Amun</i> rice has yielded a fair outturn. The winter crops are doing well.
	8 Khoolna „ 28, '89	0.18	Weather—seasonable, cloudy on two days with a little rain. <i>Amun</i> harvest continues with good outturn. The cloudy weather did not continue long enough to cause material injury to the winter crops.
	Bagirhat „ „	0.31	
Rajshahi Divn.	Satkhira „ „	0.01	
	9 Jessore „ 28, '89	Nil	Weather—cloudy and hot for the season. <i>Amun</i> harvesting continues. Cold-weather crops doing fairly well. Prices of rice stationary.
	10 Moorshedabad „ 28, '89	Nil	Weather—clear and cold. <i>Amun</i> and <i>kalai</i> are being harvested. Prospects of <i>rabbi</i> good.
	11 Dinagepur „ 28, '89	Nil	Weather—colder towards the end of the week. The harvesting of winter rice continues. Mustard and sugarcane promise well except in the Thakurgaon subdivision, where only 8 annas yield of sugarcane is expected.
	12 Rajshahi „ 28, '89	Nil	Weather—seasonable. Winter rice is being harvested with good outturn; as also <i>kalai</i> . Spring crops coming on well. Sugarcane is but an indifferent crop.
	13 Rangpur „ 28, '89	Nil	Weather—seasonable. Harvesting of <i>amun</i> still continues. <i>Rabbi</i> crops doing well. Prices falling.
	14 Bogra „ 28, '89	Nil	Weather—seasonable. Nearly half the <i>amun</i> crop has been reaped, with average outturn of 17 annas. All other crops are doing well. The price of common rice varies from 18 to 20 seers a rupee.
	15 Pabna „ 28, '89	0.04	Weather—cloudy at times. <i>Amun</i> is still being harvested; outturn fair. Sugarcane crop thin. Cold-weather crops fairly abundant. Prices still rather high.
	16 Darjeeling „ 28, '89	Nil	Weather—cold. Winter crops doing well. Outturn of <i>haimanti</i> paddy in Terai expected to be 14 annas. Prices of common rice:— <div style="float: right; text-align: right;"> Srs.  Darjeeling ... .. 12  Kurseong ... .. 12  Billiguri ... .. 14  } per rupee. </div>
	17 Jalpigoree „ 28, '89	Nil	Weather—clear and cool. Cutting of <i>haimanti</i> rice still going on with a favourable outturn. Prospects of other crops good. Prices have considerably fallen.

No.	District and date of return.	Rainfall at under Station in inches.	Character of the weather and state and prospects of the crops.
<b>BENGAL—concluded.</b>			
<i>Eastern Districts.</i>			
Dacca Divn.	18 Dacca Dec. 23, '89	Nil	Weather—cool and fine. <i>Amun</i> paddy nearly all harvested; outturn on the whole good. Sugarcane and <i>rubbi</i> crops on the ground, though late, are doing fairly well. Much of these crops has been lost. Fodder is available. Prices of food-grains falling.
	19 Farreedpur „ 28, '89	Nil	Weather—rather warm for this time of year. <i>Amun</i> crop nearly harvested; outturn 14 annas. <i>Mung</i> and <i>kalai</i> almost gathered with good outturn. Other <i>rubbi</i> crops promise well. <i>Boro</i> rice is being sown.
	20 Backergunge „ 29, '89	0.44	Weather—rather warm for the time of year. Prospects of crops good. Harvesting of <i>amun</i> continues.
	21 Mymensingh „ 29, '89	Nil	Weather—seasonable. Gathering of <i>amun</i> paddy still continues. Prospects of <i>rubbi</i> crops good. Price of common rice stationary.
Chittagong Divn.	22 Chittagong „ 28, '89	0.71	Weather—cold and seasonable. Harvesting of <i>amun</i> still continues. Prices stationary.
	23 Nonkhally „ 28, '89	0.12	Weather—three days were cloudy with slight rain; too warm for the season. Harvesting of <i>amun</i> continues. <i>Rubbi</i> crops doing well. Price of rice stationary.
	24 Tipperah „ 28, '89	0.08	Weather—cloudy and unseasonably warm. <i>Amun</i> paddy is still being cut. Prospects of winter crops good.
	25 Chittagong Hill Tracts „ 27, '89	0.40	Weather—cold with dense fogs during the first four days, and cloudy during the last three days of the week. Drizzling rain on the 26th. Gathering of late plough-paddy still continues. Mustard, tobacco, and chillies progressing.
	Hill Tipperah „ 28, '89	Nil	Weather—seasonable. Gathering of <i>amun</i> paddy, cotton, and oilseeds still continues. Chillies and tobacco doing well.
<b>BEHAR.</b>			
Patna Divn.	26 Patna „ 28, '89	Nil	Weather—cold. Harvesting of paddy still continues. <i>Rubbi</i> crops look well, but rain is wanted. Prospects of poppy favourable. Prices of food-grains almost stationary.
	27 Gya „ 28, '89	Nil	Weather—cold. Harvesting of paddy going on. Prospects of <i>rubbi</i> and poppy favourable. Food-stocks sufficient.
	28 Shahabad „ 28, '89	Nil	Weather—cold and seasonable. Reports of paddy and <i>rubbi</i> crops favourable. Sugarcane doing well. Prices stationary.
	29 Darbhanga „ 29, '89	Nil	Weather—cold nights and mornings. Harvesting of the winter rice almost completed—a crop above average. The prospects of the <i>rubbi</i> are favourable, but rain is wanted. The tobacco crop is fair. Poppy reported by the opium officer to be very promising. Common rice ranges from 19 to 23 seers per rupee.
	30 Muzafferpur „ 28, '89	Nil	Weather—unusually mild for this time of year. Poppy and <i>rubbi</i> crops promise well. Rice harvest almost completed.
	31 Saran „ 28, '89	Nil	Weather—cold and seasonable. Prospects of <i>rubbi</i> and poppy crops excellent. Sugarcane doing well.
Bhagalpur Divn.	32 Champaran „ 28, '89	Nil	Weather—cool and fair. Harvesting of <i>aghani</i> rice finished. <i>Rubbi</i> crops growing well; prospects satisfactory. Poppy looks healthy. Sugarcane is being pressed; probable outturn 10 annas.
	33 Monghyr „ 28, '89	Nil	Weather—cool and seasonable. Harvesting of winter rice still going on. Prospects of <i>rubbi</i> crops and poppy continue promising.
	34 Bhagulpur „ 28, '89	Nil	Weather—rather too warm and cloudy early in the week; now bright and cool. Rice harvest on low lands is closing. Sugarcane outturn only fair. <i>Rubbi</i> crops doing well, but require rain now.
	35 Purneah „ 28, '89	Nil	Weather—warm days, cold nights; clouds about. <i>Aghani</i> rice is for the most part harvested. Outturn will be about average. Mustard and <i>kurtai</i> are being gathered in places. Tobacco and other <i>rubbi</i> crops doing well.
	36 Maldah „ 28, '89	Slight rain.	Weather—cold and cloudy with slight rain on two days. Harvesting of winter rice continues. <i>Rubbi</i> crops doing well. Price of rice ranges from 16 to 19 seers a rupee.
	37 Sonthal Pergas. „ 28, '89	Nil	Weather—cloudy and rather warm. No rain. Paddy harvest is going on with good outturn. <i>Rubbi</i> crops doing well. A little rain wanted in Godda.









No.	District and date of return.	Rainfall at Sudder Station in inches.	Character of the weather and state and prospects of the crops.
ORISSA.			
ORISSA DIV.	38 Cuttack Dec. 28, '89	Nil	Weather—cloudy for some days, but now fine. Reaping of <i>sarad</i> (late rice) continues. <i>Biri</i> is being gathered in some places.
	39 Pooree „ 27, '89	0.17	Weather—cloudy and drizzling. Harvesting of winter rice (late <i>sarad</i> ) still continues. <i>Dalus</i> crop is being sown. Prices of food-grains steady.
	40 Balasore „ 28, '89	Nil	Weather—cloudy and warm. Rice harvest nearly over. <i>Rabbi</i> crops doing fairly well.
CHOTA NAGPORE.			
South-West Frontier Agency.			
CHOTA NAGPORE DIV.	41 Hazaribagh Dec. 28, '89	Nil	Weather—cloudy for some days. Crops in good condition generally. Poppy promising. In thanas Chowparan, Chitra, and Huntergunj the outturn of paddy is reported to be from 8 to 12 annas. Wheat prospects in Chowparan are reported to be from 10 to 14 annas.
	42 Lohardugga „ 28, '89	Nil	Weather—cloudy. Harvesting of paddy still continues. Prospects of <i>rabbi</i> at head-quarters good. In south of the Palamow subdivision <i>rabbi</i> is slightly damaged by frost.
	43 Singhbhum „ 28, '89	Nil	Weather—cloudy. Crop prospects favourable. Prices stationary.
	44 Manbhum „ 28, '89	Nil	Weather—seasonable. All crops doing well.

Published for general information.

CALCUTTA; REVENUE DEPT.,  
The 31st December, 1889.P. NOLAN,  
Secy. to the Govt. of Bengal.

**Results of the Meteorological Observations taken at the Alipore Observatory from  
22nd to 28th December 1889.**

Month.	Date.	Maximum in sun.	Number of hours of bright sunshine.	Mean pressure barometer at 5½° Fahr.	TEMPERATURE.				HYGROMETRY.				Prevailing direction.	Miles recorded.	Rain.	WEATHER.
					Mean.	Maximum.	Range.	Minimum.	Mean wet bulb.	Vapour tension.	Dew point.	Humidity.				
1889.		°		Inches.	°	°	°	°	°	Inches.	°	%			Inches.	
Dec.	22nd	129.6	9.2	30.016	65.0	75.9	20.7	55.2	60.6	0.473	57.4	73	N by E, NNE, and N.	56	Nil	Chiefly clear,  .
"	23rd	123.2	3.1	.007	68.1	77.7	18.8	58.9	63.3	.521	60.1	77	NNE and N	71	"	Chiefly clear,  .
"	24th	131.8	4.5	29.968	71.6	79.6	16.4	64.2	66.4	.576	63.0	75	NE and ENE	84	"	Chiefly cloudy,  .
"	25th	109.7	Nil	.965	71.6	77.0	10.4	66.6	67.7	.622	65.4	82	ENE and E	83	6.02	Cloudy, o. g. d.
"	26th	134.5	7.0	.991	72.0	80.1	14.6	65.5	68.6	.655	66.6	84	ESE and ENE	51	0.01	Chiefly cloudy, d.  .
"	27th	133.5	7.0	80.032	71.9	79.6	14.3	64.8	67.8	.620	65.5	81	E by S, NNE and N by E.	56	Nil	Partially cloudy,  .
"	28th	132.8	8.9	.036	68.6	78.7	17.3	61.4	63.1	.506	59.3	72	NNE, N and NNW	75	"	Chiefly clear,  .

The mean pressure of the seven days ... .. Inches. 30.003

The average pressure of the corresponding period for 24 years, S.-G.'s Office ... 30.038

The total number of hours of bright sunshine ... .. Hours. 40.3

The maximum possible number of hours of sunshine ... .. 75.0

The mean temperature of the seven days ... .. ° 69.8

The average temperature of the corresponding period for 24 years, S.-G.'s Office ... 67.2

The extreme variation of temperature ... .. ° 24.9

The maximum temperature ... .. ° 80.1

The highest velocity of the wind in one hour ... .. Miles. 10

The highest pressure of wind on one square foot ... .. lbs. Not measurable.

The mean relative humidity ... .. % 78

The average relative humidity of the corresponding period for 24 years, S.-G.'s Office ... 71

The total fall of rain from 22nd to 28th December 1889 ... .. Inches. 0.03

The average fall of the corresponding period for 24 years, S.-G.'s Office ... 0.01

The total fall from 1st January to 28th December 1889 ... .. 57.47

The average fall of the corresponding period for 24 years, S.-G.'s Office ... 63.24

The mean pressure, temperature, &c., are deduced from the traces of the Barograph and Thermograph and from observations made at 6h, 10h, 16h, and 22h.


The maximum and minimum temperatures are obtained from self-registering thermometers. All the thermometers are verified, and the readings have been corrected to a standard constructed and verified at the Kew Observatory. They are exposed under a thatched shed open at the sides, and are suspended four feet above the ground.

The barometer readings are corrected approximately to those of the standard, Newman's No 86, formerly at the Surveyor-General's Office.

The hygrometric elements are obtained from Tables III, IV, and V of the official tables computed in the Meteorological Office, and based on Regnault's modifications of August's formula.

The directions and the movement of the wind are taken from the trace of a Beekley's anemograph.

The mouth of the rain-gauge is one foot above the ground.

o overcast;  dew;  fog.

O. LITTLE,

*For Meteorological Reporter to the Govt. of India.*

METEOROLOGICAL OFFICE, GOVT. OF INDIA;

Calcutta, the 30th December 1889.

## Meteorological Report of the Province of Bengal

STATION OBSERVATIONS.														
District	Representative station.	AIR PRESSURE.			WIND.		TEMPERATURE.							
		Mean barometric height, 8 A.M.	Mean reduced to sea-level.	Variation from mean.	Prevailing direction.	Mean wind velocity.	Highest during week.	Date.	Lowest during week.	Mean.	Mean maximum temperature.	Mean minimum temperature.	Mean daily temperature.	Variation from normal mean of week.
UNION.	Pooree	30.007	30.020	—	N. Ely.	247	81.7	31st Dec.	80.0	81.0	81.0	80.0	80.0	—
	Cuttack	30.007	30.020	—	SW	216	78.9	27th	80.0	81.0	81.0	80.0	80.0	—
	Balasore	30.017	30.078	—0.05	North-easterly.	91.0	81.3	28th	80.3	81st	81st	80.1	80.1	+0.7
	South-West Midnapore	30.030	30.067	—0.04	NNE	216	81.7	31st	80.3	81st	81st	80.1	80.1	+0.5
SOUTH-WEST BENGAL.	South 24-Pargunnahs	30.017	30.073	—0.05	N	93.1	81.3	28th	80.2	81st	81st	80.0	80.0	+0.4
	24-Pargunnahs	30.047	30.080	—0.03	Northerly	68	80.0	27th	80.3	81st	81st	80.0	80.0	+0.5
	Hooghly	30.044	30.071	—0.04	Calm	27.3	81.1	26th	80.3	81st	81st	80.0	80.0	+0.0
	Burdwan	30.046	30.064	—0.04	Calm	81.3	80.0	27th	80.7	81st	81st	80.0	80.0	+0.0
SOUTH-WEST BENGAL.	Ranaghat	30.046	30.069	—0.03	NW	48.5	80.0	27th	81.0	81st	81st	80.0	80.0	+0.0
	West Burdwan	30.049	30.079	—0.03	N	34.2	80.1	26th	80.3	81st	81st	80.0	80.0	+0.0
	Moorthadabad	30.046	30.100	—0.10	NNW	55.3	81.3	26th	80.9	81st	81st	80.0	80.0	+0.0
	Mudra	30.054	30.080	—0.03	Calm	30.0	81.2	26th	80.0	81st	81st	80.0	80.0	+0.0
SOUTH-WEST BENGAL.	Jessore	30.047	30.040	—0.03	North-easterly	37.3	80.1	26th	80.1	81st	81st	80.0	80.0	+0.0
	Chittagong	30.043	30.066	—0.06	NNE	61.1	81.0	24th	80.1	81st	81st	80.0	80.0	+0.0
	Chittagong Hill Tracts	30.003	30.060	—	North-easterly.	37.9	81.0	25th	80.0	81st	81st	80.0	80.0	+0.0
	Barisal	30.003	30.074	—0.12	Calm	37.9	81.0	25th	80.0	81st	81st	80.0	80.0	+0.0
SOUTH-WEST BENGAL.	Faridpur	30.030	30.064	—0.01	N. E	66.0	80.0	24th	80.3	81st	81st	80.0	80.0	+0.0
	Dacca	30.018	30.063	—0.03	N	34.0	80.3	24th	80.0	81st	81st	80.0	80.0	+0.0
	Tipperah	30.013	30.074	—0.10	Variable	33.0	81.0	24th	80.4	81st	81st	80.0	80.0	+0.0
	Mymensingh	30.008	30.064	—0.04	Calm	17.0	81.3	24th	80.1	81st	81st	80.0	80.0	+0.0
SOUTH-WEST BENGAL.	Bogra	30.018	30.067	—0.03	North-easterly.	16.0	81.0	27th	80.7	81st	81st	80.0	80.0	+0.0
	Barisal	30.002	30.076	—0.11	N & NNE	60.7	79.9	28th	80.0	81st	81st	80.0	80.0	+0.0
	Maldah	30.012	30.066	—	NW	79.3	80.0	27th	80.0	81st	81st	80.0	80.0	+0.0
	Dinapore	30.003	30.063	+0.13	North-easterly.	51.3	80.1	24th	80.0	81st	81st	80.0	80.0	+0.0
SOUTH-WEST BENGAL.	Rangpur	30.073	30.103	—0.10	ESE	50.3	79.0	24th	80.0	81st	81st	80.0	80.0	+0.0
	Jalpaiguri	30.000	30.111	—0.04	Northerly	37.0	?	?	80.0	81st	81st	80.0	80.0	+0.0
	Darjeeling Hill Tracts	30.000	—	+0.00	Variable	60.3	80.3	24th	80.0	81st	81st	80.0	80.0	+0.0
	Faridpur	30.007	30.103	—0.08	Calm	30.0	77.3	24th	80.0	81st	81st	80.0	80.0	+0.0
SOUTH-WEST BENGAL.	North Bengal	30.000	30.117	—0.04	SE	30.0	78.0	22nd	80.0	81st	81st	80.0	80.0	+0.0
	Darbhanga	30.076	30.121	+0.17	Calm	60.0	77.0	24th	80.0	81st	81st	80.0	80.0	+0.0
	Chhapra	30.081	30.126	+0.08	Northerly	47.0	76.3	24th & 25th	80.0	81st	81st	80.0	80.0	+0.0
	Patna	30.070	30.120	+0.02	SW	111.0	79.3	21st	80.0	81st	81st	80.0	80.0	+0.0
SOUTH-WEST BENGAL.	Shahabad	30.070	30.120	+0.10	Variable	61.3	76.4	21st	80.0	81st	81st	80.0	80.0	+0.0
	Gya	30.071	30.127	—0.01	South-easterly.	100.0	80.3	24th	80.0	81st	81st	80.0	80.0	+0.0
	Patna	30.071	30.127	—0.10	SW	70.0	76.0	24th	80.0	81st	81st	80.0	80.0	+0.0
	South Bihar	?	?	?	Variable	30.0	79.3	24th	80.0	81st	81st	80.0	80.0	+0.0
SOUTH-WEST BENGAL.	North Bihar	30.070	30.100	—	NNW	41.0	79.0	27th	80.0	81st	81st	80.0	80.0	+0.0
	Meerut	30.083	30.123	—0.11	Calm	117.7	78.1	24th	80.0	81st	81st	80.0	80.0	+0.0
	Meerut	30.084	30.103	—0.15	Calm	80.0	77.0	24th	80.0	81st	81st	80.0	80.0	+0.0
	Meerut	30.080	30.100	—	Calm	27.0	81.0	27th	80.0	81st	81st	80.0	80.0	+0.0

Explanation.—Summation.—The normal mean of air pressure and temperature are the arithmetical average or means of the readings during the same period for the last year. The humidity of the atmosphere is expressed in percentage, saturated air being represented by 100. A clear sky is denoted by 0 and an overcast sky by 10. The number of the thermometer means or average of the rainfall in that district determined from the returns sent in by the subdivisional stations for the period in question during the past seasons in the district ending in returns divided by the number of stations. A rainy day is one on which at least hundredth of an inch fell.



for the week ending Friday, the 27th of December 1889.

DISTRICT OBSERVATIONS.															Representative station.	District.	METEOROLOGICAL DIVISION.
Average at 9 A.M.	Average cloud amount at 9 A.M. for week.	Rainfall of week at observing station.	OF WEEK.		RAINFALL.						Average number of rainy days.	Normal number of rainy days.					
			Mean for district.	Normal mean.	Since 1st of month.			Since May 15th.									
					Mean for district.	Normal mean.	Variation.	Mean for district.	Normal mean.	Variation.							
64	5.3	0.17	0.36	0.04	0.23	0.84	-0.61	76.86	55.16	+19.73	1.5	0.1	Poorce	Poorce ... ..	UNCL.		
65	4.1	0.36											Gopalpore				
66	0.1	1.04											Pales Point				
73	6.0	Nil	0.05	0.04	0.08	0.57	-0.52	64.84	51.84	+14.70	0.2	0.1	Outback	Outback ... ..	UNCL.		
83	1.7	0.02	0.02	0.01	0.02	0.38	-0.36	69.80	52.55	-2.85	0.2	0.1	Balaore	Balaore ... ..			
89	5.9	0.06	0.04	Nil	0.04	0.34	-0.30	54.41	61.88	-3.55	1.0	0.0	Rangor Island	South-West Midnapore			
96	2.6	Nil	Nil	Nil	Nil	0.25	-0.25	46.29	51.00	-4.71	0.0	0.0	Midnapore	South 24-Pargannas	UNCL.		
97	4.4	0.02	Nil	0.01	Nil	0.29	-0.29	53.28	51.16	+2.22	0.0	0.1	Calcutta	Midnapore			
99	4.3	Nil	Nil	0.01	Nil	0.19	-0.19	45.81	46.20	-0.39	0.0	0.1	Burdwan	24-Pargannas			
106	5.7	Nil	Nil	0.01	Nil	0.30	-0.30	55.88	51.29	+4.59	0.0	0.1	Bankura	Howrah	SOUTH-WEST BENGAL.		
81	4.6	Nil	Nil	Nil	Nil	0.13	-0.13	52.44	51.14	+1.28	0.0	0.0	Ranagunge	Hooghly			
86	4.1	Nil	Nil	Nil	Nil	0.14	-0.14	51.16	49.38	+1.77	0.0	0.0	Berhampore	West Burdwan			
84	3.4	Nil	Nil	0.01	Nil	0.14	-0.14	51.40	48.85	+2.55	0.0	0.1	Krishnachur	Moorsheadabad	SOUTH-WEST BENGAL.		
88	4.1	Nil	0.06	0.02	0.06	0.30	-0.24	53.38	52.04	+1.34	0.4	0.1	Jessore	Nadua			
87	7.6	0.07		0.03		0.86		112.82				0.1	Chittagong	Jessore			
				0.08		0.55		80.50				0.1	Demagiri	Khoulia	SOUTH-WEST BENGAL.		
91	3.9	0.03	0.26	0.02	0.24	0.45	-0.19	77.82	76.32	+1.50	1.0	0.1	Barrack	Chittagong Hill Tracts			
85	0.4	0.15	0.26	0.01	0.26	0.81	-0.85	90.20	105.81	-15.61	1.5	0.1	Noakhali	Backergunge	SOUTH-WEST BENGAL.		
80	2.3	Nil	0.02	Nil	0.02	0.15	-0.11	60.23	55.39	+4.84	0.2	0.0	Furroadpore	Noakhali			
87	4.7	Nil	Nil	0.01	Nil	0.25	-0.25	74.39	59.21	+15.18	0.0	0.1	Dacca	Furroadpore	SOUTH-WEST BENGAL.		
88	1.3	Nil	0.02	0.02	0.02	0.37	-0.35	55.45	48.80	+6.65	0.2	0.1	Comilla	Dacca			
91	2.0	Nil	Nil	0.01	Nil	0.15	-0.15	57.63	57.13	+0.50	0.0	0.1	Mymensingh	Tipperah	SOUTH-WEST BENGAL.		
86	1.6	0.01	Nil	0.01	Nil	0.14	-0.14	64.81	56.89	+7.92	0.2	0.0	Bohara	Mymensingh			
84	3.0	0.12	0.08	0.01	0.08	0.11	-0.09	58.07	52.54	+5.53	1.0	0.1	Serajpore	Bohara	SOUTH-WEST BENGAL.		
84	1.6	Nil	Nil	Nil	Nil	0.15	-0.15	54.30	53.31	+0.99	0.0	0.0	Rampore	Patna			
85	1.4	Nil	Nil	Nil	Nil	0.10	0.10	59.70	53.73	+5.97	0.0	0.0	Waldah	Rajshahi	SOUTH-WEST BENGAL.		
84	0.9	Nil	Nil	Nil	Nil	0.16	-0.16	57.35	54.50	+2.85	0.0	0.0	Dumkapore	Maldah			
85	0	Nil	Nil	0.01	Nil	0.15	-0.15	55.10	73.00	-17.90	0.0	0.1	Rangpore	Dumkapore	SOUTH-WEST BENGAL.		
86	0	Nil	Nil	Nil	Nil	0.16	-0.16	117.13	111.19	+5.94	0.0	0.0	Jalpigore	Rangpore			
85	0.3	Nil	Nil	0.01	Nil	0.20	-0.20	123.75	120.54	+3.21	0.0	0.1	Darjeeling	Jalpigore	SOUTH-WEST BENGAL.		
80	0.7	Nil	Nil	Nil	Nil	0.00	-0.00	74.7	55.10	+19.61	0.0	0.0	Purneah	Hooghly Behar			
			Nil	0.01	Nil	0.08	-0.08	48.86	42.57	+6.29	0.0	0.1	Mooserpore	Darjeeling Hill Tract.	SOUTH-WEST BENGAL.		
80	0	Nil	Nil	Nil	Nil	0.08	-0.08	51.84	44.01	+7.83	0.0	0.0	Darbhanga	Purneah			
89	0	Nil	Nil	0.02	Nil	0.18	0.18	53.55	46.00	+7.55	0.0	0.1	Mothur	North Bhagulpore	SOUTH-WEST BENGAL.		
80	0	Nil	Nil	0.01	Nil	0.16	-0.16	40.13	42.19	-2.06	0.0	0.1	Chupra	Mooserpore			
81	0.8	Nil	Nil	0.03	Nil	0.22	-0.22	40.07	39.58	+0.49	0.0	0.1	Johre	Shahabad	SOUTH-WEST BENGAL.		
85	0.1	Nil	Nil										Arrah				
76	2.0	Nil	Nil	0.04	Nil	0.23	-0.23	57.07	40.88	+16.19	0.0	0.1	Gya	Gya ... ..	SOUTH-WEST BENGAL.		
83	0.6	Nil	Nil	0.01	Nil	0.12	-0.12	43.40	40.75	+2.65	0.0	0.1	Bankipore	Patna			
86	0.2	Nil	Nil	Nil	Nil	0.07	-0.07	42.43	43.04	-0.61	0.0	0.0	Bankipore	South Bhagulpore	SOUTH-WEST BENGAL.		
84	0.9	Nil	Nil	Nil	Nil	0.10	-0.10	54.15	50.29	+3.86	0.0	0.0	Bankipore	Bankipore			
76	2.3	Nil	Nil	0.01	Nil	0.27	-0.27	43.03	50.07	-7.04	0.0	0.1	Bankipore	Bankipore	SOUTH-WEST BENGAL.		
77	0.6	Nil	Nil	0.02	Nil	0.20	-0.20	44.34	48.38	-4.04	0.0	0.1	Bankipore	Bankipore			
			Nil	0.01	Nil	0.28	-0.28	45.76	50.78	-5.02	0.0	0.1	Bankipore	Bankipore	SOUTH-WEST BENGAL.		
74	2.0	Nil	Nil	0.01	Nil	0.28	-0.28	45.76	50.78	-5.02	0.0	0.1	Bankipore	Bankipore			

## Statement of Rainfall in Bengal for the week ending Friday (8 a.m.), the 27th of December 1889.

Meteorological division.	District.	Station.	RAINFALL.							TOTAL		Total rain-fall since 1st of month.	Average total rain-fall from 1st of month.	Total rain-fall since 15th May.	Average rainfall (from 15th May to date).
			Saturday, 21st December.	Sunday, 22nd December.	Monday, 23rd December.	Tuesday, 24th December.	Wednesday, 25th December.	Thursday, 26th December.	Friday, 27th December.	Number of rainy days.	of Rainfall week.				
Oude.	Pooree	Pooree	.....	.....	.....	0.06	0.04	0.00	3	0.31	0.21	0.74	80.03	81.08	
		Ahmedabad	.....	.....	.....	.....	.....	.....	NH	NH	NH	0.82	78.57	81.13	
		Banpur	.....	.....	.....	.....	.....	.....	1	0.14	0.14	1.28	65.50	66.50	
		Falke Point	.....	.....	.....	.....	.....	.....	2	1.04	1.04	0.82	76.80	83.23	
		Pipili	.....	.....	.....	.....	.....	.....	.....	.....	.....	?	?	?	
	Cuttack	Jagatsinghpore	.....	.....	.....	.....	.....	.....	NH	NH	NH	0.88	79.07	80.79	
		Baiki	.....	.....	.....	.....	.....	.....	NH	NH	NH	0.87	82.43	83.70	
		Cuttack	.....	.....	.....	.....	.....	.....	NH	NH	NH	0.86	78.18	80.00	
		Kendrapara	.....	.....	.....	.....	.....	0.20	1	0.20	0.20	0.81	72.03	82.70	
		Jajpore	.....	.....	.....	.....	.....	.....	NH	NH	NH	0.78	87.44	83.01	
Balasore	Dharmesla	.....	.....	.....	.....	.....	.....	NH	NH	NH	?	80.25	?		
	Solapore	.....	.....	.....	.....	.....	.....	NH	NH	NH	?	78.49	?		
	Chandali	.....	.....	.....	.....	.....	0.13	1	0.13	0.13	0.60	84.64	81.00		
	Rhusdrunk	.....	.....	.....	.....	.....	.....	NH	NH	NH	0.27	87.08	81.14		
	Sorah	.....	.....	.....	.....	.....	.....	NH	NH	NH	0.13	80.05	80.94		
SOUTH WEST HINDIAL.	Midnapore	Balasore	.....	.....	.....	.....	.....	.....	NH	NH	NH	0.40	84.41	87.44	
		Jellacore	.....	.....	.....	.....	.....	.....	NH	NH	NH	0.11	87.39	83.76	
		Raripodah	.....	.....	.....	.....	.....	.....	NH	NH	NH	0.16	84.79	83.45	
		Contai	.....	.....	.....	.....	.....	0.05	1	0.05	0.05	0.41	85.13	88.50	
		Saugor Island	.....	.....	.....	.....	.....	0.03	NH	0.03	0.03	0.38	80.74	80.79	
	24-Pergunnahs.	Tutinnick	.....	.....	.....	.....	.....	.....	NH	NH	NH	0.28	80.44	80.81	
		Midnapore	.....	.....	.....	.....	.....	.....	NH	NH	NH	0.17	84.25	86.11	
		Chattal	.....	.....	.....	.....	.....	.....	NH	NH	NH	0.28	83.19	84.04	
		Katrahaly	.....	.....	.....	.....	.....	.....	NH	NH	NH	?	80.03	?	
		Haria	.....	.....	.....	.....	.....	.....	NH	NH	NH	?	80.46	?	
Howrah	Bhadrakpur	.....	.....	.....	.....	.....	.....	NH	NH	NH	?	81.79	?		
	Gurbetta	.....	.....	.....	.....	.....	.....	NH	NH	NH	?	81.79	?		
	Diamond Harbour	.....	.....	.....	.....	.....	0.04	1	0.04	0.04	0.26	83.41	87.02		
	Canning Town	.....	.....	.....	.....	.....	0.17	1	0.17	0.17	?	87.80	?		
	Alipore Jail	.....	.....	.....	.....	.....	.....	NH	NH	NH	0.35	81.80	82.15		
Hooghly	Barrackpore	.....	.....	.....	.....	.....	.....	NH	NH	NH	0.30	81.79	80.76		
	Dum-Dum	.....	.....	.....	.....	.....	.....	NH	NH	NH	0.30	81.58	81.10		
	Ramset	.....	.....	.....	.....	.....	.....	NH	NH	NH	0.31	87.61	80.34		
	Bisnath	.....	.....	.....	.....	.....	.....	NH	NH	NH	0.24	80.94	84.71		
	Howrah	.....	.....	.....	.....	.....	.....	NH	NH	NH	0.31	80.12	81.91		
Burdwan	Moharaka	.....	.....	.....	.....	.....	.....	NH	NH	NH	0.20	84.64	81.84		
	Quibberah	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
	Serampore	.....	.....	.....	.....	.....	.....	NH	NH	NH	0.30	83.27	80.00		
	Hooghly	.....	.....	.....	.....	.....	.....	NH	NH	NH	0.29	80.82	81.76		
	Jehanabad	.....	.....	.....	.....	.....	.....	1	0.03	0.03	0.20	81.16	84.45		
Bankura	Culina	.....	.....	.....	.....	.....	.....	NH	NH	NH	0.23	81.82	83.44		
	Burdwan	.....	.....	.....	.....	.....	.....	NH	NH	NH	0.21	87.07	87.21		
	Culina	.....	.....	.....	.....	.....	.....	NH	NH	NH	0.10	83.11	87.03		
	Baneranga	.....	.....	.....	.....	.....	.....	NH	NH	NH	0.12	85.43	86.09		
	Manik	.....	.....	.....	.....	.....	.....	NH	NH	NH	?	83.71	?		
Borthom	Bankura	.....	.....	.....	.....	.....	.....	NH	NH	NH	0.23	80.79	81.14		
	Bishnupore	.....	.....	.....	.....	.....	.....	NH	NH	NH	0.27	87.40	81.00		
	Mahara	.....	.....	.....	.....	.....	.....	NH	NH	NH	0.23	81.29	81.29		
	Khaira	.....	.....	.....	.....	.....	.....	NH	NH	NH	0.44	83.91	83.73		
	Indas	.....	.....	.....	.....	.....	.....	NH	NH	NH	?	85.14	?		
Borthom	Kotalpore	.....	.....	.....	.....	.....	.....	NH	NH	NH	?	84.80	?		
	Anda	.....	.....	.....	.....	.....	.....	NH	NH	NH	?	81.44	?		
	Gangajalghat	.....	.....	.....	.....	.....	.....	NH	NH	NH	?	80.17	?		
	Haripore	.....	.....	.....	.....	.....	.....	NH	NH	NH	?	86.45	?		
	Manabadi	.....	.....	.....	.....	.....	.....	NH	NH	NH	?	84.23	?		
Borthom	Bh. Sooky	.....	.....	.....	.....	.....	.....	NH	NH	NH	0.11	80.05	81.29		
	Heinsapore	.....	.....	.....	.....	.....	.....	NH	NH	NH	0.11	87.07	83.77		
	Rampore-Ham	.....	.....	.....	.....	.....	.....	NH	NH	NH	0.18	87.76	81.00		
	Boipore	.....	.....	.....	.....	.....	.....	NH	NH	NH	?	84.07	?		
	Maravat	.....	.....	.....	.....	.....	.....	NH	NH	NH	?	85.10	?		
Nadda	Banaghat	.....	.....	.....	.....	.....	.....	NH	NH	NH	0.21	85.90	86.91		
	Kahnaghat	.....	.....	.....	.....	.....	.....	NH	NH	NH	0.08	87.05	80.71		
	Chocadanga	.....	.....	.....	.....	.....	.....	NH	NH	NH	0.14	80.81	80.94		
	Meherpore	.....	.....	.....	.....	.....	.....	NH	NH	NH	0.13	84.05	87.11		
	Kooshia	.....	.....	.....	.....	.....	.....	NH	NH	NH	0.10	80.70	83.98		
Khoolna	Batkira	.....	.....	.....	.....	.....	0.01	1	0.01	0.01	0.30	87.31	84.25		
	Bagirhat	.....	.....	.....	.....	.....	0.31	1	0.31	0.31	0.27	81.00	80.77		
	Khoolna	.....	.....	.....	.....	.....	0.18	1	0.18	0.18	0.84	84.76	84.19		
	Nakpur	.....	.....	.....	.....	.....	0.30	1	0.30	0.30	?	?	?		
	Nakpur	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Jessore	Karni	.....	.....	.....	.....	.....	.....	NH	NH	NH	0.25	80.47	84.85		
	Jessore	.....	.....	.....	.....	.....	.....	NH	NH	NH	0.21	87.35	87.70		
	Jhesidab	.....	.....	.....	.....	.....	.....	NH	NH	NH	0.16	80.60	82.04		
	Shajorah	.....	.....	.....	.....	.....	.....	NH	NH	NH	0.16	80.48	85.88		
	Bongong	.....	.....	.....	.....	.....	.....	NH	NH	NH	0.21	84.91	81.33		
Moorebadebad	Kandi	.....	.....	.....	.....	.....	.....	NH	NH	NH	0.10	83.70	80.39		
	Berhampore	.....	.....	.....	.....	.....	.....	NH	NH	NH	0.17	86.16	80.34		
	Lalugh	.....	.....	.....	.....	.....	.....	NH	NH	NH	0.15	87.13	80.83		
	Adungpore	.....	.....	.....	.....	.....	.....	NH	NH	NH	0.11	80.43	80.83		
	Jungpore	.....	.....	.....	.....	.....	.....	NH	NH	NH	0.12	83.01	84.06		
Chittagong	Lalawa	.....	.....	.....	.....	.....	.....	NH	NH	NH	0.11	80.12	80.36		
	Jagunge	.....	.....	.....	.....	.....	.....	NH	NH	NH	?	80.25	?		
	Akhrigun	.....	.....	.....	.....	.....	.....	NH	NH	NH	?	82.91	?		
	Pathabari	.....	.....	.....	.....	.....	.....	NH	NH	NH	?	?	?		
	Pathabari	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
SOUTH HINDIAL.	Chittagong	Cor's Bazar	.....	.....	.....	.....	.....	.....	0.34	0.37	2	0.71	0.71	0.40	185.01
		Chittagong	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.09	76.43	80.76	
		Antubdia	.....	.....	.....	.....	.....	.....	.....	.....	.....	?	?	?	
	Chittagong Hill Tracts.	Bangorani	.....	.....	.....	.....	.....	0.40	1	0.40	0.40	0.66	68.04	83.10	
		Kuma	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.28	79.81	79.81	
Moorbunge	Antubdially	.....	.....	.....	.....	.....	0.05	1	0.05	0.05	0.61	87.20	87.11		
	Pennapore	.....	.....	.....	.....	.....	0.20	1	0.20	0.20	0.70	72.16	80.83		
	Moorbunge	.....	.....	.....	.....	.....	0.44	1	0.44	0.44	0.64	79.62	81.43		
Moorbunge	Moorbunge	.....	.....	.....	.....	.....	0.27	1	0.27	0.27	0.67	79.80	81.43		
	Moorbunge	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		

## Statement of Rainfall in Bengal for the week ending Friday (8 a.m.), the 27th of December 1889—contd.

Meteorological Division.	District.	Station.	RAINFALL.							TOTAL		Total rain-fall since 1st of month.	Average total rain-fall from 1st of month.	Total rain-fall since 1st of May.	Average rainfall from 1st of May to date.
			Saturday, 1st December.	Sunday, 2nd December.	Monday, 3rd December.	Tuesday, 4th December.	Wednesday, 5th December.	Thursday, 6th December.	Friday, 7th December.	Number of rainy days.	of Rainfall week.				
East Bengal—contd.	Noakhali	Gournadi ..	.....	.....	.....	.....	.....	0.35	.....	1	0.35	0.35	?	92.90	?
		Naakhali ..	.....	.....	.....	.....	.....	0.12	.....	1	0.12	0.12	0.60	102.17	107.16
		Penny ..	.....	.....	.....	.....	.....	0.35	0.05	2	0.40	0.40	1.00	74.38	105.90
	Farroedpore	Harishpore ..	.....	.....	.....	.....	.....	0.30	.....	1	0.30	0.30	?	85.96	?
		Bampanj ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	81.75	?
		Madaripore ..	.....	.....	.....	.....	.....	0.05	.....	1	0.05	Nil	0.18	71.85	84.94
	Dacca	Furzeduara ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.14	85.90	85.90
		Qualunda ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.10	84.79	85.52
		Munshingunge ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.24	76.33	82.65
	Hill Tipperah	Dacca ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.19	74.99	84.94
		Naraindunge ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.25	80.36	87.45
		Manchukunda ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.19	87.99	90.48
	Tipperah	Joydebpore ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	80.61	?
		Agartala ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.34	64.08	60.90
		Gomila ..	.....	.....	.....	.....	.....	0.05	.....	1	0.05	0.05	0.45	62.17	75.42
	Mymensingh	Chandpore ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.49	64.42	75.42
		Brahmunbaria ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.25	80.64	80.64
		Ramchandrapore ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	80.14	?
	Dhaka	Nasirpore ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	30.59	?
		Daudkandi ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	82.39	?
		Kasba ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	82.44	?
	Mymensingh	Lakshmi ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	68.69	?
		Kishoreganj ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.15	81.84	81.84
		Atia (Tangaila) ..	.....	.....	.....	.....	0.02	.....	.....	1	0.02	0.02	0.09	61.80	61.80
	Pabna	Mymensingh ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.12	96.55	88.97
		Jamshilpore ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.20	81.14	79.46
		Narail ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.19	126.91	84.86
	Bogra	Subarnachal ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	87.43	75.61
		Durgapore ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	149.94	?
		Sherepore Town ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	87.09	?
	Bogra	Dewanganj ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	84.31	?
		Pabna ..	.....	.....	.....	.....	.....	0.04	.....	1	0.04	0.04	0.11	40.97	83.98
		Sheranganj ..	.....	.....	.....	.....	.....	0.13	.....	1	0.13	0.13	0.10	60.26	82.93
	Rajshahi	Sherepore ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.18	62.60	87.00
		Nowkhilla ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.12	60.98	63.81
		Botra ..	.....	.....	.....	.....	.....	0.03	.....	1	0.03	0.03	0.07	70.63	60.10
	Malda	Pauchbidi ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.18	64.96	83.47
		Banuloh ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.10	40.50	82.61
		Saltora ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.10	88.84	84.84
	Malda	Naogaon ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.20	57.87	80.94
		Lalpur ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	30.72	?
		Bandi ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	40.27	?
	Dinapore	Malda ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.14	50.53	81.09
		Chanchal ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.08	28.91	80.17
		Gajal ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	80.79	?
	Dinapore	Shibganj ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	81.77	?
		Mohadepore ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.17	55.63	85.82
		Churaman ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.10	81.82	81.82
	Dinapore	Manupur ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.17	82.25	87.25
		Dinapore ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.08	67.94	82.94
		Rajshahi ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.29	61.25	80.90
	Dinapore	Thakerganj ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	87.47	?
		Banwaniganj ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.14	87.85	81.85
		(Oyabanda) ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.08	74.41	73.84
	Dinapore	Rupnagar ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.17	90.97	79.81
		Kurigram ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.21	87.80	84.80
		Haridwar ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	79.00	?
	Jalpaiguri	(Nilphamari) ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	79.00	?
		Dispur ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.10	123.87	116.14
		Jalpaiguri ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	119.84	?
	Cooch Behar	Alipore ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	127.43	?
		Paalacotta ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	80.95	?
		Dahiganj ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	138.01	?
	Cooch Behar	Thakerganj ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	138.01	?
		(Nagarkata) ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.26	89.00	85.72
		Dinapore ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.11	195.34	117.84
	Dumki	Cooch Behar ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.20	121.37	105.21
		Mickligunge ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.16	117.88	111.88
		Masabunga ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.36	191.08	191.08
	Dumki	Bura ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.11	120.71	102.50
		Balliguri ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.23	127.87	108.11
		Dumki ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.43	91.96	82.96
	Dumki	Kalimpang ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	168.25	?
		Kurmung ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.10	102.37	89.37
		Kurmung ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.04	79.61	61.61
	Dumki	Arum ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.15	83.45	61.15
		Arum ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	?	?
		Gundara ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	?	?
	Dumki	Bairampore ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	?	?
		Bara ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	?	?
		Kaibag ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.05	69.85	69.85
	North Bhagulpore	Maddipore ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.09	67.26	67.26
		Naopali ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	87.55	?
		Protaganj ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	?	?
	Dumki	Tajpore ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.07	42.44	42.44
		Dumki ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.12	63.11	63.11
		Dumki ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.06	63.11	63.11
	Dumki	Dumki ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	56.84	?
		Dumki ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.05	85.08	85.08
		Dumki ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.08	48.41	48.41
	Dumki	Mosafferpore ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.12	82.32	81.32
		Mosafferpore ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	?	?
		Mosafferpore ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	41.02	?
	Dumki	Mosafferpore ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	?	?
		Mosafferpore ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	?	?
		Mosafferpore ..	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	47.92	?



## Statement of Rainfall in Bengal for the week ending Friday (8 a.m.), the 27th of December 1889—concl.

Meteorological Division.	District.	Station.	RAINFALL.							TOTAL.		Total rainfall since 1st of month.	Average total rainfall from 1st of month.	Total rainfall since 16th May.	Average rainfall from 16th May to date.
			Saturday, 21st December.	Sunday, 22nd December.	Monday, 23rd December.	Tuesday, 24th December.	Wednesday, 25th December.	Thursday, 26th December.	Friday, 27th December.	Number of rainy days.	of Rainfall week.				
NORTH BHAR.	Champaran...	Notihari	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	0.14	76.79	64.14
		Berhampore	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	0.14	82.29	67.65
		Berhampore	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	?	81.70	?
SOUTH BHAR.	Baran	Gopalgunge	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	0.17	38.45	62.73
		Baran	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	0.15	44.25	47.21
		Chuprah	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	0.10	48.71	39.49
	Shahabad	Buxar	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	0.10	47.44	37.79
		Dehri	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	0.07	41.65	39.31
		Bhabua	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	0.07	29.4	40.16
		Sumerain	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	0.20	47.09	40.19
		Arrah	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	?	?	39.19
	Gya	Mehaula	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	?	?	?
		Aurangabad	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	0.02	33.42	46.66
		Gya	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	0.22	39.51	40.15
		Nowadah	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	0.18	39.39	39.7
		Jehanabad	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	0.16	37.90	39.26
		Arrah	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	?	34.31	?
		Chandragarh	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	?	29.69	?
	Patna	Patna	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	0.13	31.49	41.76
		Barh	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	0.11	45.53	40.94
		Barh	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	0.12	37.81	42.26
CENTRAL BHAR.	Monghyr	Barh	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	0.07	47.02	39.61
		Barh	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	0.07	41.65	40.07
		Barh	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	?	36.10	?
	South Bhagalpore	Shahpore	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	0.05	45.04	41.72
		Shahpore	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	0.08	38.54	43.14
		Shahpore	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	?	47.97	?
	South Patna	Barh	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	0.00	39.90	39.90
		Barh	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	0.10	40.94	41.70
		Barh	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	0.09	38.50	39.90
	South Patna	Nya Doocha	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	0.15	40.75	41.70
		Deochur	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	0.08	40.60	40.60
		Deochur	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	0.17	45.21	40.70
	South Patna	Barh	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	?	46.41	?
		Barh	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	?	45.97	?
		Barh	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	?	45.97	?
CENTRAL BHAR.	Muzaffargarh	Pachamba	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	0.18	38.90	47.03
		(Giridi)	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	0.27	40.10	46.40
		Barh	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	0.21	39.24	46.39
	Lohardaga	Santakurah	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	0.00	?	?
		Mahudi Hill	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	0.00	43.00	42.00
		Jhoomra Hill	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	?	31.90	?
		Barh	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	?	40.09	?
		Barh	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	?	39.34	?
	Lohardaga	Karagdeha	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	0.03	45.74	40.64
		Karagdeha	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	0.25	43.41	41.49
		Karagdeha	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	0.18	39.16	40.69
		Karagdeha	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	?	33.80	?
		Karagdeha	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	?	44.40	?
CENTRAL BHAR.	Singha	Chakrabarti	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	0.03	44.70	40.90
		Chakrabarti	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	?	40.70	?
		Chakrabarti	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	?	40.70	?
	Singha	Chakrabarti	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	0.03	44.70	40.90
		Chakrabarti	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	?	40.70	?
		Chakrabarti	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	?	40.70	?
	Singha	Chakrabarti	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	0.03	44.70	40.90
		Chakrabarti	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	?	40.70	?
		Chakrabarti	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	?	40.70	?
	Singha	Chakrabarti	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	0.03	44.70	40.90
		Chakrabarti	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	?	40.70	?
		Chakrabarti	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	?	40.70	?
CENTRAL BHAR.	Singha	Chakrabarti	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	0.03	44.70	40.90
		Chakrabarti	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	?	40.70	?
		Chakrabarti	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	?	40.70	?
	Singha	Chakrabarti	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	0.03	44.70	40.90
		Chakrabarti	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	?	40.70	?
		Chakrabarti	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	?	40.70	?
	Singha	Chakrabarti	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	0.03	44.70	40.90
		Chakrabarti	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	?	40.70	?
		Chakrabarti	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	?	40.70	?
	Singha	Chakrabarti	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	0.03	44.70	40.90
		Chakrabarti	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	?	40.70	?
		Chakrabarti	.....	.....	.....	.....	.....	.....	.....	NI	NI	NI	?	40.70	?

Explanation.—Indicates that no rain has fallen. If the return for any day has not been received, the corresponding space is left blank. If any of the returns are wanting, the corresponding space in the total rainfall column is left blank.

CALCUTTA, the 31st December 1889.

**SUMMARY OF THE METEOROLOGICAL AND RAINFALL OBSERVATIONS  
TAKEN IN BENGAL FOR THE WEEK ENDING FRIDAY, THE 27TH  
DECEMBER 1889.**

At the close of the previous week weather conditions in Bengal were quite normal for the season, and therefore of ordinary cold weather character. In the Bay also weather was fine except in the extreme south, where along the Madras coast from Cuddalore southwards rain was falling, the conditions being still disturbed as the result of the cyclonic storm which had passed across the extreme south of the peninsula on December 18th, moving in a westerly direction. On the 21st, or the first day of the present week, conditions in Bengal remained unaltered, but skies clouded up heavily over the south of Burma. Drizzling rain commenced over this area, and pressure fell slightly at Diamond Island, while elsewhere it was generally rising. Winds also at the South Burma stations commenced to show distinct indraught towards the south of the Bay, and at Diamond Island, instead of the light winds usual at this season, wind had increased to almost a gale. On this day, therefore, it is clear that weather had become very disturbed over the south of the Bay, and it is probable that a cyclonic storm had commenced to form. On the 22nd the area of stormy weather was still quite in the south of the Bay and probably about Longitude  $88^{\circ}$  E. The storm, therefore, appeared on this day to have drifted in a westerly direction, and probably the centre of the storm was not further north than Negapatam, or perhaps even than Trincomalee. At this time all the indications appeared to point to the probability that the storm would advance across the extreme south of the peninsula, or even across the north of Ceylon. On the morning of the 23rd, the storm was probably to the east-north-east of Negapatam and at some distance from land, and it was moving slowly in a north-westerly direction. On the 24th it had again advanced in a north-westerly direction, and its centre was probably to the east of Nellore or east-north-east of Madras; while on the morning of the 25th it had come much nearer the land, and its centre was to the south-east of Masulipatam. Even on the morning of the 25th it was apparent that the storm had ceased to intensify, but it was on this date a rather severe storm; but by the morning of the 26th, and particularly from midnight of the 25th, the storm had commenced to fill up rather rapidly. On this date it had become only a barometric depression, but it was accompanied by fairly strong winds, and the position of its centre was decidedly nearer the land than on the previous day, and it was perhaps even a little to the south-west of its previous position. On the morning of the 27th the depression had quite passed inland, the centre crossing the coast apparently between Masulipatam and Nellore during the afternoon or evening of the 26th. The storm in its progress was accompanied by only a moderate barometric depression as indicated by the readings at the coast stations, but it will be observed that the storm centre was at no time very near to any meteorological station while it existed as a severe storm. The strength of the winds in the northern half of the storm was decidedly great, and for two days a gale of wind was blowing at some of the ports on the west coast. No observations from ships which were involved in the storm have yet been received, but it is probable that very severe weather accompanied the northern half of the storm, but winds in the southern half appear to have been comparatively feeble. The rainfall in connection with the storm at the land stations has been also only moderate.

As is usually the case, directly a rather severe storm is formed in the Bay, weather conditions commenced to change in Bengal. Temperature at first began to rise slowly, but from about the 23rd or 24th, when the skies had clouded over quickly, the night temperatures rose very rapidly and became very high. The storm in its north-westerly advance apparently also caused a wave of moist winds from the sea to advance over Bengal, and on about the 24th at many stations the sky was almost overcast, while humidity as well as temperature was high. In Orissa and South-East Bengal, and in parts of South and even North Bengal, so much moisture was thus brought up that light showers commenced to fall at a few stations, and dull and rather gloomy weather obtained for some days,—in fact almost up till the close of the week. For a considerable part of the week under review, therefore, the weather conditions have been almost the reverse of the normal north-east monsoon weather, but with the gradual breaking up of the storm on the 26th, and with its disappearance inland on the 27th, conditions had begun slowly to improve again in Bengal even on the 26th and 27th of the month.

*Pressure.*—The storm which has been previously described was, even in its nearest advance, so far from Bengal that it had not much practical effect on the pressures recorded, except that at many stations, and particularly at those in the south-west of the province, pressure continued to fall very slowly up to about the 25th; but on the last two days of the week there was a rise, the increase on the 27th being rather rapid. The mean pressure for the week has been almost normal in Behar and North Bengal, but over the southern, and particularly over the south-western, districts there has been a distinct defect. In South Bengal generally the defect has varied from about two to four hundredths of an inch, but at such stations as Gopalpur and False Point, which were nearest to the storm, the defect has equalled about seven hundredths of an inch.

*Temperature.*—A very large increase in the night temperatures took place during the week, as before recorded, and generally temperature has been rather largely in excess of the normal throughout the week. The excess in the mean temperature has been largest in South-West and East Bengal and South Behar, where it has averaged from five to six degrees. In

Orissa, Chutia Nagpur, and North Bengal, the excess has been from four to five degrees, while the smallest excess of all is nearly four degrees in North Behar. The average mean temperature for the whole province has therefore been almost five degrees in excess of the normal for the week.

This excess has been most largely marked in the minimum or night temperatures. This will be seen clearly in the following table, where the average maximum, minimum and mean temperatures for the week for nine typical stations in different districts of the province are compared with their normal values for the same period. The usual range of temperature during the week in various districts can therefore also be here clearly seen. At such stations as Calcutta, Cuttack, and Burdwan, the average night or minimum temperatures for the week have been no less than about eight degrees in excess of the normal, while at the same stations the day or maximum temperatures have only been about three degrees in excess:—

Table showing the excess or defect of the actual mean temperature from the normal for the week ending 27th December 1889.

	Normal mean maximum temperature for the week ending 27th December.	Actual mean maximum temperature for the week ending 27th December 1889.	Variation of actual mean from the normal.	Normal mean minimum temperature for the week ending 27th December.	Actual mean minimum temperature for the week ending 27th December 1889.	Variation of actual mean from the normal.	Normal mean daily temperature for the week ending 27th December.	Actual mean daily temperature for the week ending 27th December 1889.	Variation of actual mean from the normal.
Cuttack	80.7	81.9	+1.2	56.8	64.4	+7.6	68.7	73.8	+5.1
Calcutta	74.4	77.4	+3.0	52.9	60.9	+8.0	63.7	69.2	+5.5
Barn	76.7	80.6	+3.9	55.0	61.3	+6.3	65.9	71.0	+5.1
Burdwan	70.0	79.6	+9.6	52.4	60.7	+8.3	61.2	70.3	+9.1
Patna	72.1	76.1	+4.0	48.6	53.6	+5.0	60.4	64.3	+3.9
Gya	74.4	77.6	+3.2	49.5	53.6	+4.1	62.0	65.5	+3.5
Purneah	73.9	76.1	+2.2	47.3	52.3	+5.0	60.6	64.2	+3.6
Esarnabagh	70.7	73.9	+3.2	48.6	51.6	+3.0	59.7	63.6	+3.9
Darjeeling	44.3	54.2	+9.9	35.2	36.9	+1.7	40.8	43.6	+2.8

**Rainfall.**—Though a few showers have been received in Orissa and South-East Bengal, and at a few stations in South and North Bengal, the amounts received have not been important. The stations in Orissa and East Bengal show an average rainfall of a little more than a tenth of an inch, but the amounts in the other districts have been so small that they have only averaged a hundredth of an inch. False Point received the heaviest fall of about an inch, while the following stations received falls of a fifth of an inch and upwards:—Pooree, Kendrapara, Bagirhat, Nokipur, Chittagong, Rangamati, Perozepore, Burrisal, Bhola, Bauphal, and Fenny.

The following table gives the summary of the temperature and rainfall data of each of the seven meteorological divisions of the province for the week ending Friday, the 27th of December 1889:—

METEOROLOGICAL DIVISIONS.	TEMPERATURE.						RAINFALL.									
	Highest observed during week.	Lowest observed during week.	Averages for week.			Average mean of week above or below normal mean of week.	Of week.			Rainy days.		Since 1st of month.		Since 1st of May.		
			Of highest of each day.	Of lowest of each day.	Of mean for each day.		Average.	Normal average.	Variation.	Average number in week.	Normal average number in week.	Variation.	Average.	Normal average.	Average.	Normal average.
Orissa*	81.3	80.5	79.2	63.3	71.3	+4.6	0.12	0.03	+0.09	0.0	0.1	+0.0	0.13	0.03	63.61	53.40
South-West Bengal	82.1	80.7	79.6	60.3	69.3	+8.4	0.01	0.01	0	0.2	0.1	+0.1	0.01	0.23	53.37	51.25
East Bengal	84.5	83.0	79.4	61.0	70.3	+0.7	0.13	0.02	+0.10	0.5	0.1	+0.4	0.13	0.25	75.30	73.02
North Bengal	81.5	80.5	78.5	54.4	67.4	+0.7	0.01	Nil	+0.01	0.1	0.0	+0.1	0.01	0.15	73.13	69.25
North Behar	79.6	67.9	70.1	52.1	64.1	+0.3	Nil	0.01	-0.01	0.0	0.1	-0.1	Nil	0.11	67.65	64.16
South Behar	80.2	67.4	70.9	52.3	61.9	+5.3	Nil	0.02	-0.02	0.0	0.1	-0.1	Nil	0.17	64.18	60.30
Chutia Nagpur	77.0	67.9	72.0	53.5	63.5	+0.0	Nil	0.01	-0.01	0.0	0.1	-0.1	Nil	0.28	63.06	60.34

\* Pooree, Jajporee and Chyabasse not included.

METEOROLOGICAL OFFICE, BENGAL;  
The 31st December 1889.

A. PEDLER,  
Meteorological Reporter to the Govt. of Bengal.

Results of the Barometrical and Thermometrical Observations taken at the Meteorological Office, Chowringhee, from 22nd to 28th December 1889.

MONTH.	Date.	Pressure at 10 A.M. corrected and reduced to 32° Fahr.	TEMPERATURE.						HYGROMETRY.			Rainfall past 24 hours.
			Daily mean.	Maximum.	Range.	Minimum.	Dry bulb at 10 A.M.	Wet bulb at 10 A.M.	Vapour tension at 10 A.M.	Dew point at 10 A.M.	Humidity at 10 A.M.	
1889.		Inches.	°	°	°	°	°	°	Inches.	°	%	Inches.
December ...	22nd ...	30.078	66.5	77.6	22.2	55.4	69.8	63.6	.509	59.5	70	.....
" ...	23rd ...	.088	69.0	77.9	17.8	60.1	72.4	65.1	.523	60.2	68	.....
" ...	24th ...	.027	70.8	81.4	21.8	60.1	73.6	66.1	.542	61.2	65	.....
" ...	25th ...	.035	72.9	77.9	10.0	67.9	73.6	64.6	.633	65.7	76	.....
" ...	26th ...	.079	73.9	81.4	15.0	66.4	72.8	69.6	.682	67.9	85	0.06
" ...	27th ...	.121	72.8	80.4	15.8	65.1	75.6	70.3	.683	67.8	77	.....
" ...	28th ...	.118	71.2	79.9	17.6	62.4	73.6	64.8	.497	58.8	65	.....

The mean 10 A.M. pressure of the seven days ... .. Inches. 30.074

The mean temperature of the seven days ... .. 71.0

The extreme variation of temperature ... .. 26.0

The maximum temperature ... .. 81.4

The mean 10 A.M. relative humidity of the seven days ... .. % 72

The total fall of rain from 22nd to 28th December 1889 ... .. Inches. 0.05

The daily mean temperatures are the crude means of maximum and minimum temperatures.

C. LITTLE,

For Meteorological Reporter to the Govt. of India.

METEOROLOGICAL OFFICE, INDIA ;  
The 30th December 1889.



## MEMORANDUM.

DURING the week ending 14th December 1889, births and deaths were registered in the principal Municipalities in Bengal at the rates, respectively, of 26·9 and 31·6 per 1,000 of population, against 28·4 and 29·6 per 1,000, indicating a falling off in the registration of births against an improvement in that of deaths.

2. The highest proportions of births and deaths were returned from the following Municipalities :—

Births.			Deaths.		
		Ratio per mille.			Ratio per mille.
Bali	...	45·6	Narainganj	...	124·2
Serampore	...	45·1	Jessore	...	91·8
Rampore Beaulah	...	42·0	Utterpara	...	84·9
Arrah	...	40·7	Serampore	...	84·4
Durbhanga	...	39·3	Poori	...	83·9
Monghyr	...	38·9	Hughli and Chinsurah	...	48·1
Utterpara	...	37·7	Howrah	...	40·1
Bhagulpore	...	37·1	Dacca	...	38·3
Darjiling	...	37·0	Gya	...	35·5
Gya	...	36·6	Comillah	...	34·7
Hughli and Chinsurah	...	34·6	Durbhanga	...	34·6
Narainganj	...	33·1	Purneah	...	34·6
Chupra	...	31·2	Monghyr	...	34·4

3. The principal diseases specified in the table appended to this memorandum proved fatal at the rates exhibited below :—

	Ratio per mille during the weeks ending—	
	14th December 1889.	7th December 1889.
Cholera	4·7	4·9
Small-pox	2	8
Fever	13·4	10·8
Bowel-complaints	6·0	4·2
Injury	4	4
Other causes	7·9	8·9

indicating chiefly that, in comparison with the preceding week, the severity of fever has increased considerably, but that the mortality from the diseases classed under the head of "Other causes" has diminished to some extent.

4. While no Municipality suffered much from small-pox or presented a large number of casualties from injury, the following returned conspicuously high death-rates from the rest of the diseases specified in the above table :—

Cholera.		Fever.		Bowel-complaints.		Other causes.	
	Ratio per mille.		Ratio per mille.		Ratio per mille.		Ratio per mille.
Narainganj	83·8	Jessore	73·5	Utterpara	37·7	Narainganj	29·0
Poori	37·2	Hughli and Chin-surah	37·7	Serampore	19·6	Serampore	23·6
Serampore	13·7	Purneah	31·2	Poori	14·7	Poori	18·9
Howrah	13·2	Serampore	27·6	Hughli and Chin-surah	13·1	Dacca	13·6
Dacca	6·5	Bali	21·1	Burdwan	12·2	Durbhanga	12·6
		Gya	20·6	Howrah	10·9	Gya	11·6
				Monghyr	9·9		

5. The death-rates under the heads of Sex, Class and Age stood as follows :—

According to Sex.		According to Class.		According to Age.	
	Ratio per mille.		Ratio per mille.		Ratio per mille.
Males	33·6	Christians	14·9	Under 1 year	178·2
Females	29·6	Hindus	32·8	1 and under 5 years	36·2
Ratio of male deaths to every 100 female deaths	123	Mahomedans	28·8	5 " 10 "	20·7
		Budhists	51·4	10 " 15 "	14·0
		Other classes	76·8	15 " 20 "	23·1
				20 " 30 "	20·9
				30 " 40 "	24·8
				40 " 50 "	27·0
				50 " 60 "	40·9
				60 years and upwards	76·7

The 30th December 1889.

W. H. GREGG, Dip. Publ. Health, Camb.,  
Sanitary Commissioner for Bengal

[illegible]

[illegible]

OFFICE OF SANITARY COMMISSIONER FOR BENGAL,

**W. H. GREGG, Dip. Publ. Health, Camb.,**

*Sanitary Commissioner for Bengal.*



CIRCULAR AND EASTERN CANALS.

Approximate Return of Traffic for the week ending Saturday, the 21st December 1889, as compared with the corresponding week of the previous year.

NATURE OF CARGO.	WEEK ENDING SATURDAY, THE 21ST DECEMBER 1889.			WEEK ENDING SATURDAY, THE 22ND DECEMBER 1888.		
	Number of boats.	Weight of cargo.	Tollage.	Number of boats.	Weight of cargo.	Tollage.
	No.	Mds.	Rs.	No.	Mds.	Rs.
Rice and paddy	1,615	1,23,283	1,681	1,228	1,62,775	2,168
Jute	343	2,02,650	3,087	274	1,33,675	2,472
Firewood	128	86,850	1,269	179	82,336	1,266
Other articles	96	2,17,070	3,554	1,321	3,23,016	5,345
Total	3,082	6,29,858	10,191	3,002	7,02,000	11,251

CIRCULAR AND EASTERN CANALS.

Approximate return of traffic for the week ending Saturday, the 28th December 1889, as compared with the corresponding week of the previous year.

NATURE OF CARGO.	WEEK ENDING SATURDAY, THE 28TH DECEMBER 1889.			WEEK ENDING SATURDAY, THE 29TH DECEMBER 1888.		
	Number of boats.	Weight of cargo.	Tollage.	Number of boats.	Weight of cargo.	Tollage.
	No.	Mds.	Rs.	No.	Mds.	Rs.
Rice and paddy	1,744	1,59,595	2,298	1,297	3,07,325	2,776
Jute	379	4,00,650	4,168	242	1,36,850	2,458
Firewood	80	46,650	693	156	84,300	1,289
Other articles	1,025	2,56,170	4,042	1,042	1,90,665	2,932
Total	3,228	8,63,065	11,199	2,737	7,19,140	9,455

Nalhati State Railway.

Statement showing increases and decreases in tonnage of Staples carried over the Nalhati State Railway during the month of October 1889, as compared with the same month of the previous year.

STAPLES.	1888.		1889.		Total.		Increase.	Decrease.
	Up.	Down.	Up.	Down.	1888.	1889.		
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.		
Coal	693	.....	589	.....	693	589	.....	104
Cotton piece-goods—	.....	.....	.....	.....	.....	.....	.....	.....
1.—European	69	2	6	.....	51	6	.....	45
Grains—	108	730	59	7	167	69	.....	801
2.—Rice	8	.....	45	4	8	49	41	.....
3.—Others	.....	.....	.....	.....	.....	.....	.....	.....
Hides and skins—	.....	.....	.....	.....	.....	.....	.....	.....
1.—Hides of cattle—	.....	.....	.....	.....	.....	.....	.....	.....
a.—Dressed	1	.....	.....	.....	1	.....	.....	.....
b.—Undressed	.....	.....	.....	.....	.....	.....	.....	.....
Jute—	.....	.....	.....	.....	.....	.....	.....	.....
1.—Raw	.....	6	.....	6	.....	.....	.....	.....
2.—Gunny bags and cloths	19	.....	3	.....	21	.....	.....	.....
Lac—	.....	.....	.....	.....	.....	.....	.....	.....
1.—Stick	1	.....	.....	1	1	.....	.....	.....
Leather, manufactured	.....	.....	.....	.....	.....	.....	.....	.....
Liquors—	.....	.....	.....	.....	.....	.....	.....	.....
1.—Beer	1	.....	.....	.....	1	.....	.....	.....
Metals—	.....	.....	.....	.....	.....	.....	.....	.....
4.—Others	1	7	.....	2	6	2	.....	6
Oils—	.....	.....	.....	.....	.....	.....	.....	.....
1.—Castor	.....	.....	1	.....	.....	1	.....	.....
2.—Kerosine	.....	.....	1	.....	.....	1	.....	.....
3.—Others	1	.....	.....	.....	1	.....	.....	.....
Oilseeds—	20	.....	24	.....	20	24	4	.....
4.—Mustard and rape	30	.....	.....	.....	65	.....	.....	.....
5.—Others	.....	.....	.....	.....	.....	.....	.....	.....
Provisions—	.....	.....	.....	.....	.....	.....	.....	.....
1.—Wheat	.....	13	.....	.....	.....	.....	.....	.....
2.—Dried fruits and nuts	.....	.....	.....	.....	.....	.....	.....	.....
3.—Others	89	21	80	20	110	79	.....	31
Railway plant and rolling-stock	43	1	16	.....	63	16	.....	27
Salt	.....	.....	.....	.....	.....	.....	.....	.....
2.—raw—	.....	.....	.....	.....	.....	.....	.....	.....
3.—Indian	2	14	.....	15	20	15	.....	5
4.—European	.....	.....	.....	.....	.....	.....	.....	.....
5.—Others	.....	.....	.....	.....	.....	.....	.....	.....
6.—Indian	.....	.....	.....	.....	.....	.....	.....	.....
7.—Others	.....	.....	.....	.....	.....	.....	.....	.....
8.—Others	.....	.....	.....	.....	.....	.....	.....	.....
9.—Others	.....	.....	.....	.....	.....	.....	.....	.....
10.—Others	.....	.....	.....	.....	.....	.....	.....	.....
11.—Others	.....	.....	.....	.....	.....	.....	.....	.....
12.—Others	.....	.....	.....	.....	.....	.....	.....	.....
13.—Others	.....	.....	.....	.....	.....	.....	.....	.....
14.—Others	.....	.....	.....	.....	.....	.....	.....	.....
15.—Others	.....	.....	.....	.....	.....	.....	.....	.....
16.—Others	.....	.....	.....	.....	.....	.....	.....	.....
17.—Others	.....	.....	.....	.....	.....	.....	.....	.....
18.—Others	.....	.....	.....	.....	.....	.....	.....	.....
19.—Others	.....	.....	.....	.....	.....	.....	.....	.....
20.—Others	.....	.....	.....	.....	.....	.....	.....	.....
21.—Others	.....	.....	.....	.....	.....	.....	.....	.....
22.—Others	.....	.....	.....	.....	.....	.....	.....	.....
23.—Others	.....	.....	.....	.....	.....	.....	.....	.....
24.—Others	.....	.....	.....	.....	.....	.....	.....	.....
25.—Others	.....	.....	.....	.....	.....	.....	.....	.....
26.—Others	.....	.....	.....	.....	.....	.....	.....	.....
27.—Others	.....	.....	.....	.....	.....	.....	.....	.....
28.—Others	.....	.....	.....	.....	.....	.....	.....	.....
29.—Others	.....	.....	.....	.....	.....	.....	.....	.....
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99.—Others	.....	.....	.....	.....	.....	.....	.....	.....
100.—Others	.....	.....	.....	.....	.....	.....	.....	.....
Total	1,210	808	1,119	80	2,018	1,095	1,118	1,131

INCREASE.						Tons.
Grains—						
(4) Others						41
This increase is owing to greater import of paddy for high price at Aximganj.						
DECREASE.						
Coal						104
This decrease is due to previous stock not being exhausted.						
Cotton piece-goods—						
(1) European						45
This is due to this traffic being carried by steamers plying between Jeaganj and Calcutta.						
Grains—						
(2) Rice						801
This is due to less export from intermediate stations.						
Jute—						
(2) Gunny-bags and cloths						18
This is due to less export of grains.						
Oilseeds—						
(3) Others						45
This is due to less import for dull market.						
Provisions—						
(2) Dried fruits and nuts						15
Owing to less import of cocoanuts.						
Railway plant and rolling-stock						31
This is due to less materials carried during the month.						
Salt						27
This is due to this traffic being carried by boat.						
Sugar—						
(1) Drained						11
Less imported on account of less demand.						

The 27th December 1889.

R. G. MOOKERJEE,  
Manager, Nalhati State Railway.

## Weekly Return of Traffic Receipts on Indian Railways.

## EAST INDIAN RAILWAY.

Approximate Return of Traffic for week ended 21st December 1889, on 1,526½ miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated).	Totalearnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. S.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the week	216,540	2,72,920 6 6	24,51,853 10	5,23,664 3 6	30,511 14 0	9,16,406 7 6	66,976	61,600	128,576
Or per mile of railway	176 14 6			448 6 11	13 7 1	600 12 6			
For previous 52 weeks of half-year	5,743,667	63,68,121 11 0	5,12,23,130 20	1,16,74,836 6 6	3,88,160 9 5	1,94,20,647 10 11	1,682,399	1,642,820	3,325,219
Total or 52 weeks	5,959,167	66,31,042 1 6	5,41,44,783 30	1,22,97,620 10 0	4,08,641 7 5	1,93,37,345 2 5	1,688,604	2,029,846	3,718,450
COMPARISON.									
Total for corresponding week of previous year	218,784	2,90,392 2 5	24,51,948 0	5,32,373 2 9	17,608 14 10	10,08,230 8 10	66,236	108,740	174,976
Per mile of railway corresponding week of previous year	190 9 3			443 13 10	11 6 1	656 13 2			
Total to corresponding date of previous year	5,801,276	63,17,216 14 5	5,39,21,307 0	1,25,19,219 13 10	4,33,701 4 2	1,94,79,133 15 5	1,630,404	2,057,901	3,688,305

\* The decrease in coaching traffic is due to figures for the corresponding period of 1889 having included earnings on account of troop extra trains.

Approximate Statement of gross receipts of the East Indian Railway, prepared in accordance with Public Works Department Circular No. XXI, Railway, dated 23rd July 1883.

RECEIPTS FOR WEEK ENDING 22ND DECEMBER 1889			RECEIPTS FOR WEEK ENDING 21ST DECEMBER 1889.			TOTAL RECEIPTS FROM 1ST APRIL 1889 TO 22ND DECEMBER 1889.			TOTAL RECEIPTS FROM 1ST APRIL 1889 TO 21ST DECEMBER 1889.			Total increase in 1889.	Total decrease in 1889.
Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Total receipts.	Per mile worked per week.	Mean mileage worked.	Total receipts.	Per mile worked per week.		
Rs.	Rs.		Rs.	Rs.		Rs.	Rs.		Rs.	Rs.			
1,526½	15,00,235	440	1,526½	9,16,406	601	1,000½	2,14,08,641	540	1,025½	2,12,64,000	541	.....	20,748

## PATNA-GYA STATE RAILWAY.

Approximate Return of Traffic for week ended 21st December 1889, on 57½ miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated).	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. S.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the week ...	14,743	8,551 14 0	42,701 30	2,762 4 0	52 11 0	11,315 15 0	1,967	526	2,493
Or per mile of railway ...	258	149 11 0	740 30	47 3 10	0 14 9	197 14 1			
For previous 24 weeks of half-year ...	324,347	1,80,322 8 0	*10,16,544 30	*51,267 9 0	†1,657 12 3	2,36,143 13 2	27,934	17,599	45,533
Total for 24 weeks ...	339,090	1,89,886 6 0	10,50,348 20	50,065 13 0	1,610 9 3	2,47,402 12 2	29,071	18,196	47,267
COMPARISON.									
Total for corresponding week of previous year ...	13,490	7,819 1 1	23,473 10	1,744 4 0	47 4 3	9,110 9 4	1,751	643	2,394
Per mile of railway corresponding week of previous year ...	236	137 15 3	440 0	30 7 11	0 13 3	169 4 5			
Total to corresponding date of previous year ...	330,887†	1,81,834 4 2	10,90,731 0	50,301 11 0	1,414 4 9	2,42,540 3 11	45,037	17,166	62,203

\* Added Mds. 3,310 and Rs. 74 5 0 } on account of supplemental goods and miscellaneous receipts for the last two days of September 1889.

† Ditto

Approximate Statement of gross receipts of the Patna-Gya State Railway, prepared in accordance with Public Works Department Circular No. XXI, Railway, dated 23rd July 1883.

RECEIPTS FOR WEEK ENDING 22ND DECEMBER 1889.			RECEIPTS FOR WEEK ENDING 21ST DECEMBER 1889.			TOTAL RECEIPTS FROM 1ST APRIL 1888 TO 22ND DECEMBER 1889.			TOTAL RECEIPTS FROM 1ST APRIL 1889 TO 21ST DECEMBER 1889.			Total increase in 1889.	Total decrease in 1889.
Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Total receipts.	Per mile worked per week.	Mean mileage worked.	Total receipts.	Per mile worked per week.	Rs.	Rs.
57½	Rs. 9,111	Rs. 159	57½	Rs. 11,310	Rs. 198	57½	Rs. 2,46,403	Rs. 164	57½	Rs. 2,36,143	Rs. 166	Rs. 4,998	Rs. 1,000

\* Added Rs. 65 on account of supplemental goods and miscellaneous receipts for the last two days of September 1889.

## TARKESSUR BRANCH RAILWAY.

Approximate Return of Traffic for week ended 21st December 1889, on 22½ miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated).	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. S.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the week ...	15,583	3,804 12 0	7,514 30	324 1 0	6 8 0	4,135 5 0	900	180	1,080
Or per mile of railway ...	692	171 0 0	334 0 0	14 9 0	0 4 8	185 13 8			
For previous 24 weeks of half-year ...	423,015	1,04,797 6 0	*2,15,847 20	*4,468 0 0	†142 11 6	1,11,408 1 6	22,038	1,032	23,070
Total for 24 weeks ...	438,598	1,08,602 2 0	2,23,662 10	6,702 1 0	140 3 6	1,13,548 6 0	23,038	2,112	25,150
COMPARISON.									
Total for corresponding week of previous year ...	15,054	3,633 4 3	7,763 20	283 9 0	6 13 5	3,942 10 6	908	62	968
Per mile of railway corresponding week of previous year ...	673	164 2 4	349 0 0	12 11 11	0 4 11	177 3 2			
Total to corresponding date of previous year ...	442,917	1,09,461 15 5	1,27,000 10	5,001 6 0	168 11 6	1,14,632 0 11	23,078	1,210	24,288

\* Added maunds 5,714-30 and Rs. 62-8-0 } on account of supplemental goods and miscellaneous receipts for the last two days of September 1889.

† Ditto

Approximate Statement of gross receipts of the Tarkessur Branch Railway, prepared in accordance with Public Works Department Circular No. XXI, Railway, dated 23rd July 1883.

RECEIPTS FOR WEEK ENDING 22ND DECEMBER 1889.			RECEIPTS FOR WEEK ENDING 21ST DECEMBER 1889.			TOTAL RECEIPTS FROM 1ST APRIL 1888 TO 22ND DECEMBER 1889.			TOTAL RECEIPTS FROM 1ST APRIL 1889 TO 21ST DECEMBER 1889.			Total increase in 1889.	Total decrease in 1889.
Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Total receipts.	Per mile worked per week.	Mean mileage worked.	Total receipts.	Per mile worked per week.	Rs.	Rs.
22½	Rs. 3,943	Rs. 177	22½	Rs. 4,135	Rs. 186	22½	Rs. 2,00,979	Rs. 238	22½	Rs. 1,98,170	Rs. 234	Rs. 2,809	Rs. 1,000

\* Added Rs. 65 on account of supplemental goods and miscellaneous receipts for the last two days of September 1889.



## EASTERN BENGAL STATE RAILWAY.

(INCLUDING N. B., Dacca, K. AND D., AND ASSAM-BEHAR SECTIONS.)

Approximate Return of Traffic for week ended 14th December 1889, on 747 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated), including steam-boat.	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. c.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the week	141,110	73,980 0 0	7,37,140 0	1,00,640 0 0	18,170 0 0	2,01,670 0 0	21,080	38,810	49,890
Or per mile of railway	189	99 0 0	973 0	207 0 0	74 0 0	370 0 0	.....	.....	.....
For previous 23 weeks of half-year	3,216,334	15,04,720 0 0	1,46,13,400 0	37,09,688 0 0	3,78,545 0 0	53,69,047 0 0	500,406	471,073	1,161,579
Total for 24 weeks	3,357,444	15,78,690 0 0	1,53,40,540 0	39,00,328 0 0	3,90,715 0 0	58,84,017 0 0	521,086	710,791	1,231,877
COMPARISON.									
Total for corresponding week of previous year	124,342	63,390 0 0	6,07,383 0	1,00,303 0 0	17,033 0 0	2,41,280 0 0	31,806	83,007	114,813
Or per mile of railway corresponding period of previous year	165	84 0 0	802 0	238 0 0	74 0 0	326 0 0	.....	.....	.....
Total to corresponding date of previous year	3,283,447	14,73,486 0 0	1,47,63,313 0	37,89,219 0 0	4,03,729 0 0	56,71,436 0 0	490,918	733,069	1,223,987

\* Audited up to week ending 26th October 1889.

† Excluding steamer earnings.

## FINANCIAL YEAR.

Approximate Statement of gross receipts of the Eastern Bengal State Railway.

RECEIPTS FOR WEEK ENDING 14TH DECEMBER 1888.			RECEIPTS FOR WEEK ENDING 14TH DECEMBER 1889.			TOTAL RECEIPTS FROM 1ST APRIL 1889 TO 15TH DECEMBER 1889.			TOTAL RECEIPTS FROM 1ST APRIL 1889 TO 14TH DECEMBER 1889.			Total increase in 1889-90.	Total decrease in 1889-90.
Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Total receipts.	Per mile worked per week.	Mean mileage worked.	Total receipts.	Per mile worked per week.	Rs.	Rs.
672	Rs. 2,41,280	354	747	Rs. 2,91,670	390	673	Rs. 76,36,806	206	721	Rs. 4,03,729	301	Rs. 3,03,123	.....

\* Audited up to week ending 26th October 1889.

## BENGAL CENTRAL RAILWAY.

Approximate Return of Traffic for week ended 14th December 1889, on 125 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated).	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. c.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the week	22,970	10,830 0 0	30,470 0	2,360 0 0	290 0 0	13,470 0 0	3,006	3,006	6,012
Or per mile of railway	233	87 0 0	344 0	19 0 0	2 0 0	109 0 0	.....	.....	.....
For previous 23 weeks of half-year	634,271	2,21,167 0 0	713,140 0	1,19,767 0 0	8,073 0 0	23,66,007 0 0	62,661	62,506	125,167
Total for 24 weeks	657,241	2,31,997 0 0	743,610 0	1,22,127 0 0	8,363 0 0	25,99,477 0 0	65,667	65,512	131,179
COMPARISON.									
Total for corresponding week of previous year	24,006	10,820 0 0	47,923 0	2,388 0 0	46 0 0	13,668 0 0	3,006	3,006	6,012
Or per mile of railway corresponding period of previous year	196	87 0 0	383 0	20 0 0	1 0 0	104 0 0	.....	.....	.....
Total to corresponding date of previous year	642,229	2,12,804 0 0	741,000 0	1,20,125 0 0	1,846 0 0	25,82,955 0 0	65,712	65,712	131,424

\* Audited up to week ending 26th October 1889.

## FINANCIAL YEAR.

Approximate Statement of gross receipts of the Bengal Central Railway.

RECEIPTS FOR WEEK ENDING 15TH DECEMBER 1888.			RECEIPTS FOR WEEK ENDING 14TH DECEMBER 1889.			TOTAL RECEIPTS FROM 1ST APRIL 1889 TO 15TH DECEMBER 1889.			TOTAL RECEIPTS FROM 1ST APRIL 1889 TO 14TH DECEMBER 1889.			Total increase in 1889-90.	Total decrease in 1889-90.
Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Total receipts.	Per mile worked per week.	Mean mileage worked.	Total receipts.	Per mile worked per week.	Rs.	Rs.
125	Rs. 11,300	104	125	Rs. 13,470	108	125	Rs. 6,10,657	111	125	Rs. 2,30,226	117	Rs. 24,065	.....

\* Audited up to week ending 26th October 1889.

## DACCA STATE RAILWAY.

Approximate Return of Traffic for week ended 14th December 1889, on 86 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated).	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
Total traffic for the week ...	18,380	Rs. A. P. 8,900 0 0	Mds. 8. 84,580 0	Rs. A. P. 4,500 0 0	Rs. A. P. 120 0 0	Rs. A. P. 10,520 0 0	2,547	2,881	5,428
Or per mile of railway ...	214	89 0 0	636 0	52 0 0	1 0 0	123 0 0	...	...	...
For previous 53 weeks of half-year ...	848,840	1,14,970 0 0	6,04,115 0	80,868 0 0	5,864 0 0	*1,77,401 0 0	87,576	17,886	75,462
Total for 54 weeks ...	867,220	1,20,770 0 0	7,18,695	81,168 0 0	5,984 0 0	1,97,923 0 0	90,123	20,137	80,260
COMPARISON.									
Total for corresponding week of previous year ...	14,500	5,178 0 0	18,006 0	1,906 0 0	170 0 0	7,253 0 0	2,510	594	3,104
Per mile of railway corresponding period of previous year ...	169	60 0 0	216 0	22 0 0	2 0 0	84 0 0	...	...	...
Total to corresponding date of previous year ...	840,805	1,07,796 0 0	3,61,782 0	38,947 0 0	4,653 0 0	1,41,206 0 0	80,234	18,744	75,989

\* Audited up to week ending 26th October 1889.

## FINANCIAL YEAR.

Approximate Statement of gross receipts of the Dacca State Railway.

RECEIPTS FOR WEEK ENDING 15TH DECEMBER 1889.			RECEIPTS FOR WEEK ENDING 14TH DECEMBER 1889.			TOTAL RECEIPTS FROM 1ST APRIL 1889 TO 15TH DECEMBER 1889.			TOTAL RECEIPTS FROM 1ST APRIL 1889 TO 14TH DECEMBER 1889.			Total increase in 1889-90.	Total decrease in 1889-90.
Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Total receipts.	Per mile worked.	Mean mileage worked.	Total receipts.	Per mile worked.		
86	Rs. 7,223	84	86	Rs. 10,020	122	86	Rs. 2,00,397	85	86	*2,63,000	83	Rs. 60,603	...

\* Audited up to week ending 26th October 1889.

## DARJEELING-HIMALAYAN RAILWAY COMPANY, LIMITED.

Approximate earnings for week ending 30th November 1889	Rs. 8,477
Corresponding week last year	10,829
Decrease	2,352
Receipts from 1st July to 30th November 1889	2,42,105
From 1st July to 1st December 1888	2,64,200
Decrease	22,095
Compared with 1887, there is an increase of Rs. 21,163 for the corresponding period.	
Miles open week ending 30th November 1889	Miles. 61
Corresponding week last year	61
Receipts per mile open week ending 30th November 1889	Rs. A. P. 166 8 5
Corresponding week last year	212 5 6
Decrease	46 2 1

## DARJEELING-HIMALAYAN RAILWAY COMPANY, LIMITED.

Approximate earnings for week ending 7th December 1889	Rs. 11,451
Corresponding week last year	9,441
Increase	2,010
Receipts from 1st July to 7th December 1889	2,53,856
From 1st July to 8th December 1888	2,73,641
Decrease	19,785
Compared with 1887, there is an increase of Rs. 23,735 for the corresponding period.	
Miles open week ending 7th December 1889	Miles. 61
Corresponding week last year	61
Receipts per mile open week ending 7th December 1889	Rs. A. P. 224 8 5
Corresponding week last year	186 2 0
Increase	38 6 5



# SUPPLEMENT TO The Calcutta Gazette.

WEDNESDAY, JANUARY 8, 1890.

## OFFICIAL PAPERS.

*Non-Subscribers to the GAZETTE may receive the SUPPLEMENT separately on payment of Six Rupees per annum if delivered in Calcutta, or Twelve Rupees if sent by Post.*

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*Abstract of the Proceedings of the Council of the Lieutenant-Governor of Bengal, assembled for the purpose of making Laws and Regulations under the provisions of the Act of Parliament 24 and 25 Vic., Cap. 67.*

THE Council met at the Council Chamber on Saturday, the 4th January, 1890.

#### Present:

The HON'BLE SIR STEUART COLVIN BAYLEY, K.C.S.I., C.I.E., Lieutenant-Governor of Bengal, *presiding*.

The HON'BLE SIR CHARLES PAUL, K.C.I.E., *Advocate-General*.

The HON'BLE F. B. PEACOCK.

The HON'BLE P. NOLAN.

The HON'BLE T. T. ALLEN.

The HON'BLE SIR HENRY HARRISON, RT.

The HON'BLE SIR ALFRED CROFT, K.C.I.E.

The HON'BLE DR. MAHENDRA LAL SIRCAR, C.I.E.

The HON'BLE C. H. MOORE.

The HON'BLE H. PRATT.

The HON'BLE SHAHZADA MAHOMMED FURROKH SHAH.

The HON'BLE DR. RASH BEHARY GHOSE.

The HON'BLE RAJA RAMESHWAR SING BAHADUR.

#### RULES FOR THE CONDUCT OF BUSINESS.

THE Hon'ble Sir Charles Paul presented the Report of the Select Committee appointed to consider and amend the Rules for the Conduct of Business at Meetings of the Council.



He said:—"The Council will see from the report the amendments which have been made. The rules have been redrafted in what we considered a more convenient form. The only material alterations are those mentioned in the report, to two of which I shall refer. One of these is Rule 31, where it is provided that when a Bill is introduced, it shall, together with the Statement of Objects and Reasons, be published in the English and Vernacular languages in the official gazettes of such parts of Bengal as are affected by the Bill. And on some subsequent occasion the member in charge of it shall make one or more of the following motions:—(a) that it be referred to a Select Committee, or (b) that it be taken into consideration by the Council at some future day, or (c) that it be circulated for the purpose of eliciting opinions thereon.

"The amendment which we have made is this. We have provided in certain cases, whenever it may be unnecessary to refer a Bill to a Select Committee, that it may be taken into consideration by the Council. Occasions have arisen where a reference to a Select Committee was useless to provide for such cases. We have put in clause (b) of Rule 31.

"But inasmuch as it may be said that such a Bill should not be passed too summarily, we have provided that it shall be published with the Statement of Objects and Reasons, and as a rider upon that we have, as mentioned in the fifth paragraph of our report, provided, as a matter of further precaution, that the President shall have authority, upon a motion to consider a Bill being carried, to submit the Bill itself, or any part of it, section by section, to the Council; thus making the Council act the part of a Select Committee.

"Then another rule to which I wish to call attention is Rule 44. This is intended to meet the case which has occurred more than once of the passing of a Bill being postponed on account of some formal or trifling amendment having been made.

"I wish to point out another matter which came before the Select Committee. Under the Indian Council's Act the President has a casting vote. That provision was made a rule under our existing rules. The Members of the Select Committee thought that it did not come within the scope of a rule, and therefore what we propose to do (but which has been left out by mistake) is to add a foot-note indicating that the President has a casting vote under a particular section of the Indian Council's Act. This has only been done for the purpose of making the subject complete and calling attention to it.

"We have also provided that the right of the President to address the Council before putting the question should be indicated in specific terms, and have introduced a rule giving effect to that object. These are the principal amendments we have made."

HIS HONOUR the President said:—"This Report will be in the hands of Members to-day, and the Rules will be brought forward for passing at the next meeting of the Council. Under the rules we have yet to get the consent of the Government of India before they can come into force."

#### BENGAL VACCINATION BILL.

The Hon'ble SIR HENRY HARRISON introduced the Bill to amend the Bengal Vaccination Act, 1880, and Act 11, 1887, and moved that it be read in Council.

He said:—"I explained at the last meeting the objects and measures of this Bill which are very much of a formal character."

The Motion was put and agreed to.

The Bill was read accordingly.

The Hon'ble SIR HENRY HARRISON also moved that the Bill be referred to a Select Committee, consisting of the Hon'ble Messrs. Nolan and Allen, and the Mover, with instructions to report thereon within one fortnight.

The Motion was put and agreed to.

#### CALCUTTA AND THE SUBURBAN POLICE SUPERANNUATION FUNDS BILL.

The Hon'ble SIR HENRY HARRISON moved that the Report of the Select Committee on the Bill to consolidate the Calcutta and the Suburban Police

Superannuation Funds be taken into consideration in order to the settlement of the clauses of the Bill.

The Motion was put and agreed to.

The Hon'ble Sir HENRY HARRISON also moved that the clauses of the Bill be considered for settlement in the form recommended by the Select Committee.

He said :—"I wish to make one remark on the present occasion. The Select Committee in their report said, that they struck out so much of section 2 as made the provisions of that section applicable to the Clerk appointed to manage the Superannuation Fund.

"Since then I have received a memorial from the Clerk drawing attention to the hardship to him of losing his pension, but so long a time has elapsed since the report of the Select Committee was prepared that I have not been able to remember why we left it out. I do not think we had the intention of depriving the Clerk of his salary or pension.

"My recollection is, that we considered the wording of section 2 sufficient without making any particular reference to the Clerk. The words of the section are:—'The Police Superannuation Funds . . . shall be consolidated, and shall form one Police Superannuation Fund and, shall be applied from time to time to the payment of the charges incurred in the control and management of the said Fund.' That is the first purpose to which the revenues of the Fund are to be applied. The section goes on to say—'and of such superannuation or retiring allowances or gratuities as may be ordered by the Local Government at any time to any Police Officer of the Calcutta or Suburban Police Force,' and the words followed—'or to any person employed as a Clerk to manage the said Fund.' That seemed to the Select Committee rather confused, because the first purpose to which the revenues are to be applied, viz., the management of the Fund, is quite different from the second purpose, which is the payment of pensions and gratuities to members of Police Force for which the Fund primarily exist. Therefore to put the Clerk in the same category as the Police Force seemed rather out of place. The Clerk rather came under that portion of the section which made the revenues applicable to the payment of the charges incurred in the control and management of the Fund.

"But as there may be some doubt, I will ask the Council to insert such words as will remove all difficulty, and therefore I move that the words 'including salaries, pensions or gratuities' be inserted after 'charges' in line 7 of section 2, making the wording run thus: 'and shall be applied from time to time to the payment of the charges, including salaries, pensions or gratuities, incurred in the control and management of the said Fund.' That, I believe, will make the intention quite clear."

The Motion was put and agreed to.

The Hon'ble Sir Henry Harrison's motion that in line 7 of section 2, after the word "charges" the words "including salaries, pensions or gratuities" be inserted, was also put and agreed to.

#### CALCUTTA PORT BILL.

HIS HONOUR the President said:—"The next item of business on the list is to consider the Report of the Select Committee on the Bill to consolidate and amend the law relating to the Port of Calcutta and to the appointment of Commissioners for the said Port. On that subject the Hon'ble Mr. Moore has rather an important amendment to propose; and as the matter is still under the consideration of the Chamber of Commerce, he asks that the consideration of this Bill be postponed. I am sure the Council will readily accede to the Hon'ble Member's request, and I hope we shall be able to discuss the Bill at our next meeting."

The consideration of the Report was postponed.

The Council adjourned to Saturday, the 11th January, 1890.

CALCUTTA,  
The 7th January, 1890.

C. H. REILY,  
Assistant Secretary to the Govt. of Bengal,  
Legislative Department.

PROPOSED EXHIBITION IN VIENNA.

*The 31st December, 1889.*—The following correspondence is published for general information.

By order of the Lieutenant-Governor of Bengal,

P. NOLAN,  
*Secretary to the Govt. of Bengal.*

Circular No. 49C.—M. & Ex., dated Calcutta, the 19th December 1889.

From—J. W. P. MUIR-MACKENZIE, Esq., C.S., Under-Secretary to the Government of India, Revenue and Agricultural Department,

To—The Secretary to the Government of Bengal.

I AM directed to forward a copy of a letter No. 990, dated the 31st August last, from the Imperial and Royal Austro-Hungarian Consul-General, Bombay, regarding an exhibition to be held in Vienna between the 15th May and 31st October, 1890, of articles connected with agriculture and the management of forests, and to request that you will be good enough, with the permission of His Honour the Lieutenant-Governor, to give due publicity to the announcement.

No. 990, dated Bombay, the 31st August 1889.

From—F. STOCKINGER, Esq., Imperial and Royal Austro-Hungarian Consul-General, Bombay,

To—The Secretary to the Government of India, Foreign Department.

By order of my Government I have the honour to inform you that, under the auspices of the Imperial and Royal Agricultural Society in Vienna, an exhibition of articles connected with agriculture and the management of forests will be held in Vienna between the 15th May and the 31st October 1890.

According to the official prospectus the following foreign articles will be admitted to this exhibition :—

- (1) Machines and appliances for agriculture and sylviculture and for the industries connected therewith; also for the production of fruit, wine and hops; for the breeding of domestic fowls, of bees, silk-worms and dogs; for hunting, shooting, and fishing.
- (2) Various appliances for agriculture, such as artificial manure, artificial fodder, veterinary appliances and medicines, &c.
- (3) Models, plans and drawings; also statistical information referring to agricultural and sylvicultural improvements, architecture and engineering.
- (4) Models, plans, drawings and statistical information referring to agricultural and sylvicultural instruction and experiments; also the literature bearing on these subjects.
- (5) Models, plans, drawings and statistical information referring to the utilisation of droppings and waste stuff.
- (6) Models, plans, drawings and statistical information referring to the food-supply of large cities.
- (7) Domestic fowls and dogs.

I have the honour to request you, therefore, to bring the foregoing information to the notice of the respective official authorities as soon as possible.

Should any further information be required by intending exhibitors, I shall be happy to give it as far as I am able to do so, and also to forward any notice or application for admission to the said exhibition to the proper quarter.

Such notice should be given or application made as soon as possible.

## Rainfall, Weather, and State and Prospects of the Crops.

Statement showing Rainfall, Weather, and State and Prospects of the Crops in the different districts of Bengal, as reported to Government, during the week ending the 4th January 1890.

No.	District and date of return.	Rainfall at Sudder Station in inches.	Character of the weather and state and prospects of the crops.
<b>BENGAL.</b>			
<i>Western Districts.</i>			
BURDWAN DIV.	1 Burdwan Jan. 4, '90	Nil	Weather—seasonable. Harvesting of winter rice going on. Prospects of <i>rubbi</i> fair, and those of sugarcane good. Prices of common rice :— <div style="text-align: right;"> <i>Srs.</i>  Burdwan ... .. 15  Raneegunge ... .. 15½  Culina ... .. 15  Cutwa ... .. 15½ </div> } per rupee.
	2 Bankura .. 4, '90	Nil	Weather—seasonable. Harvesting of <i>amra</i> over. Prospects of <i>rubbi</i> not good. Sugarcane doing well. Common rice selling at 20 seers per rupee at Sudder and 18½ seers at Bishenpore.
	3 Birbhum .. 4, '90	Nil	Weather—seasonable. Harvesting of <i>amra</i> crop nearly finished. Sugarcane is in fine order, but not yet ripe for crushing. Rice selling at Boory 16½ seers per rupee, and at Rampore 14½ seers.
	4 Midnapur .. 4, '90	Nil	Weather—cold and bright. Harvesting of rice continues. Outturn in Contai about 14 annas, and in rest of the district about 12 annas. Prices continue to fall in most thanas. Prices of rice :— <div style="text-align: right;"> <i>Srs.</i>  Sudder ... .. 16  Contai ... .. 24 (new rice)  Tunkul ... .. 18  Gustai ... .. 18 </div> } per rupee.
	5 Hooghly .. 4, '90	Nil	Weather—seasonable. Reaping of winter paddy almost over. Prospects of <i>rubbi</i> crops good. Prices of common rice :— <div style="text-align: right;"> <i>Srs. Ch.</i>  Sudder ... .. 12 0  Serampore ... .. 11 8  Jehanabad ... .. 18 7 </div> } per rupee.
	Howrah .. 4, '90	Nil	Weather—a little cloudy. <i>Amra</i> crop is still being reaped. Prospects good. Price of common rice at Sudder 12½ seers per rupee.
<i>Central Districts.</i>			
PARTURNEY DIV.	6 24 Pargha Jan. 4, '90	Nil	Weather—Seasonable. Harvesting of <i>amra</i> going on, and the yield is estimated at 16 annas. Winter crops doing well. Common rice sells at from 15 to 17 seers per rupee; at Barrackpore only the price is quoted at 18½ seers.
	7 Nuddea .. 4, '90	Nil	Weather—seasonable. Harvesting of late rice is completed. Winter crops are doing well. <i>Kalai</i> and <i>munj</i> are being harvested.
	8 Khoolna .. 4, '90	Nil	Weather—seasonable. <i>Amra</i> harvest still progressing; outturn good. Prospects of winter crops good.
	9 Jessore .. 4, '90	Nil	Weather—seasonable. Harvesting of <i>amra</i> rice still going on. Outturn of <i>kalai</i> , mustard, tobacco, and linseed expected to be 10 annas. These crops were partly damaged by the unseasonable rain in November. Price of rice stationary.
	10 Moorshedabad .. 4, '90	Nil	Weather—bright and cold. <i>Amra</i> and <i>kalai</i> are still being harvested. Prospects of <i>rubbi</i> crops good.
RAJSHAHY DIV.	11 Dinagepur .. 4, '90	Nil	Weather—cloudy with east wind; very foggy. Harvesting of winter rice going on. Coarse rice selling at 17 seers per rupee.
	12 Rajshahy .. 4, '90	Nil	Weather—seasonable, a little cloudy. Paddy and <i>kalai</i> are still being harvested with fair outturn. Spring sowings are going on satisfactorily. Prospects on the whole good.
	13 Rangpur .. 4, '90	Nil	Weather—seasonable. The <i>amra</i> harvest is nearly over. Tobacco transplantation continues. Wheat, mustard, and sugarcane promise well. Land is being prepared for early rice.
	14 Bogra .. 4, '90	Nil	Weather—days warm, nights somewhat chilly. About two-thirds of <i>amra</i> crop reaped. Other crops doing well. Price of common rice at head-quarters 20 seers per rupee.
	15 Pabna .. 4, '90	Nil	Weather—seasonable. <i>Amra</i> crop is being reaped; outturn expected to be about 12 annas. Sugarcane is a deficient crop; the yield is not expected to be above 8 annas. Winter crops are fair. Prices still high.
	16 Darjeeling .. 4, '90	Nil	Weather—very cold and bright. The crops both in hills and Terai are doing well. Prospects generally good.
	17 Julpigoree .. 4, '90	Nil	Weather—cold and fair. Cutting of <i>kaimanti</i> paddy nearly finished. Prospects good. Prices of ordinary rice :— <div style="text-align: right;"> <i>Srs.</i>  Julpigoree (Sudder) ... .. 15 to 16  Boda ... .. 20  Rajgunge ... .. 20  Patgram ... .. 15  Dandim ... .. 16  Tatalya ... .. 13  Alipore Duara ... .. 15 to 16 </div> } per rupee.



No.	District and date of return.	Rainfall at Sudder Station in inches.	Character of the weather and state and prospects of the crops.
<b>BENGAL—concluded.</b>			
<i>Eastern Districts.</i>			
Dacca Div.	18 Dacca Jan. 4, '90	Nil	Weather—bright and cold. Harvesting of <i>amra</i> finished; outturn on the whole good. Winter crops doing well. Sowing of <i>boro</i> paddy going on. Fodder is available. No special change in the prices of food-grains.
	19 Farreedpur „ 4, '90	Nil	Weather—seasonable. <i>Amra</i> harvest completed. <i>Kaloi</i> is being cut. Cold-weather crops doing well. Flow of date juice fair. <i>Jali</i> rice is being sown on chura.
	20 Backergunge „ 4, '90	Nil	Weather—seasonable. Prospects of crops good. Harvesting of <i>amra</i> still continues.
	21 Mymensingh „ 4, '90	Nil	Weather—cool and bright. Harvesting of <i>amra</i> paddy still going on. <i>Rabbi</i> crops are in a flourishing condition. Price of common rice almost steady.
Chittagong Div.	22 Chittagong „ 4, '90	Nil	Weather—seasonable. Harvesting of <i>amra</i> not yet finished. Prospects of winter crops fair.
	23 Noakholly „ 4, '90	Nil	Weather—seasonable. Harvesting of <i>amra</i> nearly finished. <i>Rabbi</i> crops doing well. Price of rice stationary.
	24 Tipperah „ 4, '90	Nil	Weather—seasonable. Cutting of <i>amra</i> paddy completed. Winter crops doing well.
	25 Chittagong Hill Tracts „ 3, '90	Nil	Weather—very cold with dense fogs in the morning throughout the week; cloudy during the last two days. Harvesting of late plough-paddy still continues. Mustard, tobacco, and chillies progressing.
	Hill Tipperah „ 4, '90	Nil	Weather—cold. <i>Amra</i> paddy and cotton are still being gathered; fair outturn expected. Prospects of tobacco and chillies fair.
<b>BEHAR.</b>			
Patna Div.	26 Patna „ 4, '90	Nil	Weather—cold. Paddy is still being reaped in some places. <i>Rabbi</i> crops are progressing well. Rain would do good to the standing crops. Gram, peas, and mustard are flowering. Prospects of poppy favourable. There has been a slight rise in prices of some of the food-grains.
	27 Gya „ 4, '90	Nil	Weather—cold. Prospects of <i>rabbi</i> and poppy favourable. Paddy is being harvested. Food-stocks sufficient.
	28 Shahabad „ 4, '90	Nil	Weather—seasonable. Prospects of <i>rabbi</i> crops continue good. Sugarcane is being pressed. Prices of rice falling and of other food-grains stationary.
	29 Durbhanga „ 4, '90	Nil	Weather—clear and cold. Harvesting of rice almost completed. Prospects of <i>rabbi</i> continue favourable, but a shower of rain would be greatly beneficial to the crop. Poppy reported to be very favourable. Tobacco crop is fair. Prices stationary.
	30 Muzafferpur „ 4, '90	Nil	Weather—cold and clear. Prospects of poppy and <i>rabbi</i> crops continue good. Tobacco crop very promising.
	31 Saran „ 4, '90	Nil	Weather—seasonable. <i>Rabbi</i> crops look well. Prospects satisfactory. Poppy looks healthy and is promising.
Bhagalpur Div.	32 Champaran „ 4, '90	Nil	Weather—cold and bright. <i>Rabbi</i> crops doing well, but a good shower of rain would be beneficial. Poppy thriving; prospects excellent. Pressing of sugarcane progressing. Prices of food-grains easy.
	33 Monghyr „ 4, '90	Nil	Weather—cool and fine. Harvesting of winter rice almost finished. <i>Rabbi</i> crops and poppy doing well.
	34 Bhagalpur „ 4, '90	Nil	Weather—seasonable. Rice harvest closing. <i>Rabbi</i> crops now want rain. Mustard outturn likely to be rather below the average.
	35 Purneah „ 4, '90	Nil	Weather—days rather warm for the season. Clouds gathered, but have dispersed. <i>Aghar</i> rice harvested, except on the very low lands; outturn for the whole district averages 16 annas. Mustard and <i>karhi</i> are being gathered. Tobacco promises well. Showers are wanted for <i>rabbi</i> crops generally.
	36 Maldah „ 4, '90	Nil	Weather—rather hot for the time of the year. Harvesting of winter rice still continues. <i>Rabbi</i> crops are doing well, but some rain would do good to them. Price of common rice stationary.
	37 Southal Perga. „ 4, '90	Nil	Weather—generally bright and clear. Cloudy for the past two days. Rice harvest still going on; an average outturn expected. <i>Rabbi</i> crops satisfactory.

No.	District and date of return.	Rainfall at Sudder Station in inches.	Character of the weather and state and prospects of the crops.
<b>ORISSA.</b>			
ORISSA DIV.	38 Cutlack Jan. 4, '90	Nil	Weather—seasonable. Reaping of <i>laghu sarad</i> over; estimated outturn about 14 annas. <i>Rabbi</i> doing well.
	39 Pooree „ 3, '90	Nil	Weather—seasonable. Harvesting of winter rice (late <i>sarad</i> ) still continues. <i>Dalua</i> and <i>mung</i> crops doing well. Prices of food-grains steady.
	40 Balasore „ 4, '90	Nil	Weather—seasonable. Rice harvest not yet completed. Prospects of <i>rabbi</i> fair.
<b>CHOTA NAGPORE.</b>			
<i>South-West Frontier Agency.</i>			
CHOTA NAGPORE DIV.	41 Hazaribagh Jan. 4, '90	Nil	Weather—seasonable and cold. Crops generally good.
	42 Lohardugga „ 4, '90	Nil	Weather—seasonable: very cold. Prospects of <i>rabbi</i> good, but it wants rain soon. Harvesting of paddy is nearly finished in Palamow. Sugarcane not yet gathered.
	43 Singhbhum „ 4, '90	Nil	Weather—cloudy. <i>Bergeja</i> and <i>saroo</i> (mustard) crops are being reaped. <i>Rabbi</i> prospects good. Prices stationary.
	44 Manbhoom „ 4, '90	Nil	Weather—seasonable throughout the week excepting to-day (4th), which is rather cloudy. Winter paddy is being threshed; probable outturn 14 annas. Other crops doing well.

Published for general information.

CALCUTTA; REVENUE DEPT.,  
The 7th January, 1890.

P. NOLAN,  
Secy. to the Govt. of Bengal.

## PRICES-CURRENT (retail) of Food-grains, Firewood and Salt in the

Number.	DISTRICTS.	QUANTITIES PER RUPEE IN																	
		WHEAT.			BARLEY.			RICE, BEST SORT.			RICE, COMMON.			JOWAR OR CHOLEM. (Sorghum Vulgare.)					
		Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.			
BENGAL.																			
Western Districts.																			
1	Bardwan	14 8	13 4	12 4	No sale.			12 0	10 0	13 8	15 12	12 5	18 12	...	...	...			
2	Bankoora	14 8	13 12	12 4	14 0	14 0	14 8	15 0	15 0	16 4	19 0	18 0	21 0	...	...	...			
3	Beerbhoom	15 8	15 0	11 4	...	...	...	12 0	13 0	12 0	15 0	15 0	16 8	...	...	...			
4	Midnapore	13 0	12 8	13 5	...	...	...	12 8	11 0	13 0	17 0	16 0	17	...	...	...			
5	Hughly*	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...			
	Howrah	...	...	...	...	...	...	9 8	9 8	12 8	14 0	12 8	17 12	...	...	...			
Central Districts.																			
	Calcutta	13 4	13 3	12 9	16 10	16 11	16 13	8 10	8 3	10 3	13 8	13 5	15 8	17 8	14 12	17			
6	24-Pergunnahs	13 0	13 5	12 8	16 0	16 0	16 0	7 8	7 8	8 0	16 0	15 0	16 0	...	...	...			
7	Nuddea	15 0	15 0	14 0	17 12	17 12	22 14	10 10	10 10	12 5	12 7	12 6	17 10	...	...	...			
8	Khoolna	...	...	...	...	...	...	11 8	11 8	14 0	16 0	14 0	18 0	...	...	...			
9	Jessore	13 5	13 5	11 0	...	...	...	9 0	9 0	11 0	16 0	16 0	17 0	...	...	...			
10	Moorshedabad*	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...			
11	Dinapore	17 8	17 8	12 0	14 8	14 8	12 0	15 8	15 8	15 8	19 0	19 0	19 9	...	...	...			
12	Rajahmhye	15 12	15 0	15 12	19 8	19 8	24 0	13 8	10 8	12 0	15 12	13 8	16 8	...	...	...			
13	Rangpore	13 5	13 5	14 3	...	...	...	10 0	8 8	12 4	15 5	12 12	16 0	...	...	...			
14	Bogra	{ Best. 12 0 (com. 16 12)		15 0	9 12	...	...	12 0	12 0	12 0	18 12	16 0	18 12	...	...	...			
15	Pubna	12 0	15 8	17 0	...	...	...	7 8	7 8	8 0	16 8	14 4	17 4	...	...	...			
16	Darjeeling	11 0	11 0	10 0	10 0	10 0	10 0	5 0	5 0	5 0	12 0	12 0	12 0	...	...	...			
17	Julpigoree	13 0	12 0	11 0	16 0	16 0	16 0	8 0	8 0	9 8	16 0	17 0	16 0	...	...	...			
Eastern Districts.																			
18	Dacca	13 0	13 0	15 0	16 0	16 0	20 0	13 0	12 0	14 0	16 0	14 0	16 0	...	...	...			
19	Furzedpore	12 0	13 0	11 0	12 0	12 0	...	11 0	10 0	8 0	15 0	15 0	16 0	...	...	...			
20	Hackergunge	...	...	...	...	...	...	14 4	15 4	13 5	16 0	16 2	16 13	...	...	...			
21	Mymensingh	10 0	10 0	9 0	...	...	...	9 0	8 0	12 0	14 0	13 14	20 0	...	...	...			

\* Return not received.

A In subdivisions retail prices of salt per rupee are:—Cuttack 10 seers, Cutwa 10 seers 6 chittacks, and Haneengunge 10 seers 10 chittacks.

B At Bampur Hat retail price of salt 9½ seers per rupee.

C In Bampur and Central subdivisions retail price of salt 8 seers per rupee.

D In subdivisions retail prices of salt per rupee are:—Baran 9 seers, Hazirhat 9 seers, Diamond Harbour (at Magrahat) 10 seers, Baranagore 9 seers 2 chittacks, and Dum Dum 10 seers.

E In subdivisions retail prices of salt per rupee are:—Haneenghat 9 seers 2 chittacks, Choondanga 9 seers, Koohtia 10 seers, and Modarpore 10 seers.

F In subdivisions retail prices of salt per rupee are:—Methila 0 seers 2 chittacks and Hazirhat 8 seers.

G In subdivisions retail prices of salt per rupee are:—Jumda 9 seers, Magura 9½ seers, Nafal 9½ seers, and Dongong 10 seers.

## 0.

BAJRA OR Cumbu. ( <i>Pennisetum typho-</i> <i>ideum</i> .)			MARJA OR RAGI. ( <i>Eleusine Corocana</i> .)			KANONI OR KAKUR. ITALIAN MILLET. ( <i>Setaria italica</i> .)			GHAN, CHANA, CHHOLA, KODALAY OR SUMADA. ( <i>Cicer arietinum</i> .)		
Present return.	Next preceding re- turn.	Corresponding re- turn of last year.	Present return.	Next preceding re- turn.	Corresponding re- turn of last year.	Present return.	Next preceding re- turn.	Corresponding re- turn of last year.	Present return.	Next preceding re- turn.	Corresponding re- turn of last year.

[illegible]

13	0	18	2	11	14	...	...	...	15	11	16	3	17	12	16	2	13	15	15	3
...	...	...	...	...	...	...	...	...	4	0	5	4	12	8	16	0	16	0	16	0
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	18	14	18	14	16	0
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	12	0	12	0	16	0
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	16	0	16	0	16	0
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	14	8	14	8	12	0
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	18	0	18	0	13	8
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	13	5	13	5	10	5
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	13	8	15	0	9	12
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	15	0	15	4	18	0
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	10	0	10	0	10	0
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	13	0	13	0	11	0

[illegible]



INDIAN CORN OR MAIZE (Zea Mays.)			ANJAP OR THUR, CAJAN PEA. (Cajanus indicus.)			FIREWOOD.		
Present return.	Next return. preceding	Corresponding return of last year.	Present return.	Next return. preceding	Corresponding return of last year.	Present return.	Next return. preceding	Corresponding return of last year.

S. Ch.	S. Ch.	S. Ch.	S. Ch.	S. Ch.	S. Ch.	S. Ch.	S. Ch.	S. Ch.
	No sale.		20 0	18 0	16 0	100 0	100 0	107 0
26 0	26 0	19 0	16 8	15 8	16 12	180 0	180 0	320 0
...	...	...	12 0	10 8	16 12	100 0	160 0	160 0
...	...	...	13 8	13 0	20 0	160 0	160 0	120 0
...	...	...	...	...	...	...	...	...
...	...	...	13 4	13 0	13 8	100 0	100 0	100 0

18 5	18 5	10 13	16 7	16 10	16 10	10 0	100 0	95 0
...	...	...	18 0	17 0	17 0	100 0	10 0	160 0
...	...	...	16 6	16 0	17 12	...	...	...
...	...	...	...	...	...	160 0	160 0	160 0
...	...	...	16 0	16 0	16 0	160 0	160 0	160 0
...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	16 0	160 0	160 0
...	...	...	17 0	17 0	18 8	240 0	240 0	240 0
...	...	...	10 5	10 5	10 0	100 0	100 0	120 0
...	...	...	...	...	...	90 0	90 0	90 0
...	...	...	16 8	17 4	18 12	200 0	200 0	200 0
21 0	20 0	20 0	8 0	8 0	8 0	120 0	120 0	120 0
...	...	...	13 0	12 0	9 8	120 0	120 0	120 0

...	...	...	14 0	14 0	16 0	100 0	100 0	120 0
15 0	15 0	...	11 0	10 0	10 0	120 0	120 0	120 0
...	...	...	...	...	...	120 0	120 0	120 0
...	...	...	14 0	14 0	13 0	...	...	...

## Head-quarter Station Bazars of the Districts of Bengal on the 31st December 1889.

WHOLESALE PRICES PER MAUND OF 40 SEERS												AVERAGE WAGES PER MONTH.												DISTRICTS.
SALT.			SALT.			ABLE-BODIED AGRICULTURAL LABOURER.			STEEL OR HORSE- KNIFE.			COMMON MASON, CARPENTER, OR BLACKSMITH.												
Present return.	Next preceding return	Corresponding return of last year.	Present return.	Next preceding return	Corresponding return of last year.	Present return.	Next preceding return	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.										
BENGAL.																								
Western Districts.																								
S. Cl.	S. Cl.	S. Cl.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.										
A	10 2	10 5	10 7	8 12 0	8 12 0	8 11 0	8 0	8 0	8 0	6 0	6 0	6 8	10 0	10 0	10 0									
							7 0	7 0	6 0	5 0	6 0	5 0	15 0	15 0	15 0									
	10 0	10 0	10 0	8 15 0	8 15 0	8 14 0	10 0	13 0	10 0	8 0	9 0	8 0	13 0	10 0	15 0									
B	10 8	10 8	10 0	8 10 0	8 10 0	8 13 0	6 0	5 0	6 0	6 0	6 0	6 0	7 8	13 5	2 0									
C	10 8	10 3	10 4	8 15 0	8 15 0	8 14 0	6 1	7 8	6 0	6 0	6 0	5 0	7 4	7 8	7 8									
													10 0	10 0	12 4									
	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...									
	9 2	9 2	10 8	8 14 0	8 14 0	8 10 0	...	...	...	...	...	...	...	...	...									
Burdwan.																								
Bankoora.																								
Boerbhoom.																								
Midnapore.																								
Hooghly.																								
Howrah.																								
Central Districts.																								
(Aggr. labourers.)																								
(Common mason.)																								
10 0	10 1	10 5	8 11 11	8 11 1	3 9 0	5 0 5 0 15 0	8 0	8 0	6 0	6 0	6 0	15 0	15 0	15 0	Calcutta.									
C1	10 0	10 0	10 4	8 9 6	8 10 0	8 10 0	10 0	10 0	9 0	6 0	6 0	6 0	15 0	15 0	15 0									
							10 0	10 0	10 0	10 0	10 0	10 0	15 0	15 0	15 0									
							11 0	11 0	10 0	7 0	7 0	7 0	25 0	25 0	22 0									
D	9 2	9 2	9 2	8 14 0	8 14 0	8 14 0	...	...	...	...	...	...	...	...	...									
E	8 0	8 0	10 0	4 4 0	4 4 0	4 0 0	...	...	...	...	...	...	...	...	...									
F	9 2	9 2	9 0	4 0 0	4 0 0	4 0 0	5 0	5 0	5 0	4 0	4 0	4 0	10 0	10 0	10 0									
							7 8	7 8	7 8	6 0	6 0	6 0	15 0	15 0	15 0									
	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...									
G	9 8	9 8	10 0	4 0 0	4 0 0	8 14 0	7 8	7 8	7 8	6 0	6 0	6 0	10 0	10 0	10 0									
							8 0	8 0	8 0	8 0	8 0	8 0	15 0	15 0	15 0									
H	9 0	9 0	9 9	4 4 0	4 5 4	4 0 0	4 0	4 0	4 0	4 0	4 0	4 0	8 0	8 0	8 0									
							6 0	6 0	6 0	6 0	6 0	6 0	16 0	16 0	16 0									
I	8 8	8 8	9 6	4 8 0	4 8 0	4 4 0	7 8	5 0	7 8	6 0	6 0	6 0	10 0	10 0	10 0									
							6 0	6 0	6 0	5 0	5 0	5 0	10 0	10 0	10 0									
	8 13	8 13	8 4	4 2 8	4 2 8	4 5 4	7 8	7 8	7 8	7 0	7 0	7 0	20 0	20 0	20 0									
							5 0	5 0	5 0	6 0	6 0	6 0	7 0	7 0	7 0									
J	8 11	8 11	9 12	4 0 0	4 1 0	8 15 0	6 8	6 8	7 0	8 0	8 0	10 0	20 0	20 0	20 0									
							7 0	7 0	7 0	8 0	8 0	8 0	12 0	12 0	12 0									
	0 8 0	7 0	5 0	5 0	5 0	5 0	6 0	6 0	6 0	6 0	6 0	6 0	20 0	20 0	20 0									
							8 0	8 0	8 0	9 0	9 0	9 0	20 0	20 0	20 0									
L	9 0	9 0	9 0	4 2 0	4 2 0	4 4 0	7 8	7 8	7 8	9 0	9 0	9 0	10 0	10 0	10 0									
							...	...	...	...	...	...	...	...	...									
Eastern Districts.																								
M	9 4	9 4	9 2	4 4 0	4 4 0	4 4 0	6 0	6 0	6 0	7 0	7 0	8 0	10 0	8 0	8 6									
							10 0	10 0	10 0	12 0	12 0	15 0	20 0	20 0	20 0									
	9 0	9 0	9 0	4 4 0	4 4 0	4 2 0	10 0	7 8	7 8	10 0	7 0	8 0	15 0	15 0	15 0									
							...	...	...	...	...	...	...	...	...									
N	10 0	10 0	10 10	4 0 0	4 0 0	8 12 0	7 8	7 8	7 8	6 0	6 0	6 0	10 0	10 0	10 0									
							7 8	7 8	7 0	6 0	6 0	6 0	15 0	15 0	15 0									
O	9 0	8 8	9 10	4 6 0	4 10 0	4 2 0	9 0	9 0	10 0	7 0	7 0	7 0	30 0	30 0	30 0									
							...	...	...	...	...	...	...	...	...									
Dacca.																								
Furreedpore																								
Backergunge.																								
Mymensingh.																								

- G In Thakurgaon subdivision retail price of salt 8 seers per rupee.  
H In subdivisions retail prices of salt per rupee are:—Natore 9 seers and Nowgong 8 seers 11 chittacks.  
I In subdivisions retail prices of salt per rupee are:—Gaibanda 8 seers and Nilphamari 9 seers.  
J At Shergunge retail price of salt 5½ seers per rupee.  
K At Sitakuti wholesale price of salt 16s. 4-4 per maund.  
L At Barasat in Anjore subdivision retail price of salt 8 seers per rupee.  
M In subdivisions retail prices of salt per rupee are:—Munickgungo 8 seers, Moonahigungo 8 seers 14 chittacks, and Naraingungo 9 seers 12 chittacks.  
N In subdivisions retail prices of salt per rupee are:—Patuakhali 9 seers, Perampore 9 seers, and Bhola 8 seers.  
O In subdivisions retail prices of salt per rupee are:—Kishoregungo 5 seers, Jamalpore 10 seers, Sherpore 8 seers, and Netrokona 8 seers.

## PRICES-CURRENT (retail) of Food-grains, Firewood and Salt in the Head-quarter

Number.		DISTRICTS	QUANTITIES PER RUPEE IN																	
			WHEAT.			BARLEY.			RICE, BEST SORT.			RICE, COMMON.			JOWAR OR CHOLEM. (Sorghum Vulgare.)					
			Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.			
Eastern Districts—continued.																				
22	Chittagong	11 0	11 0	11 0	...	...	...	8 0	8 0	14 0	16 0	16 5	17 5	...	...	...				
23	Naakholly*	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...				
24	Tipperah	10 7	12 5	12 8	...	...	...	10 0	10 0	16 0	14	17 12	20 0	...	...	...				
25	Chittagong Hill Tracts	...	...	...	...	...	...	10 0	10 0	11 0	11 0	13 5	13 5	...	...	...				
	Hill Tipperah.	6 0	6 0	6 0	...	...	...	8 0	8 0	9 0	16 0	16 0	20 0	...	...	...				
BEHAR.																				
26	Patna	{ 17 4 15 8 16 8	{ Red White 16 4 17 0	{ ... 16 4 13 8	24 0	24 0	20 0	10 8	10 8	11 0	18 0	18 6	16 0	22 0	24 0	...				
27	Gya	...	...	...	20 0	20 0	16 0	10 0	10 0	9 8	17 0	18 0	16 8	...	...	...				
28	Shahabad	16 0	16 0	15 8	22 0	21 0	18 4	9 0	9 0	10 0	17 0	16 8	15 8	21 0	22 8	18 4				
29	Darbhanga	17 0	16 0	13 9	19 0	20 8	20 15	14 8	12 8	19 2	19 8	20 0	14 5	...	...	...				
30	Muzafferpore	14 0	13 0	12 0	20 0	18 0	...	10 0	10 8	9 0	18 0	19 0	12 0	...	...	...				
31	Baran	16 4	15 12	15 0	22 0	21 0	21 8	8 8	8 8	8 8	15 10	14 14	13 8	...	...	...				
32	Chumpran	13 0	12 0	13 0	20 0	20 0	21 0	9 0	9 0	9 0	18 0	19 0	13 8	...	...	...				
33	Monghyr	17 5	17 13	15 12	21 0	15 12	21 0	12 1	12 1	14 11	16 4	18 14	17 13	...	...	21 0				
34	Bhagulpore	16 6	16 6	15 2	20 3	20 3	12 10	12 0	12 10	{ Old. 11 0 New. 15 2	17 11	16 0	{ Old. 15 2 New. 16 6	...	...	...				
35	Purneah	20 0	20 0	14 0	...	...	...	17 0	20 0	14 0	19 0	22 0	16 0	...	...	...				
36	Maldah	18 0	18 0	14 0	...	...	...	9 0	11 0	12 0	16 0	14 8	17 0	...	...	...				
37	Konchal Pergah.	16 0	15 0	13 0	...	...	...	12 0	12 0	12 8	18 0	17 0	19 0	...	...	...				
ORISSA																				
38	Cuttack	13 2	13 2	13 2	...	...	...	10 8	10 8	11 13	19 11	18 6	19 11	...	...	...				
39	Pooree	13 2	13 2	11 13	...	...	...	14 7	14 7	11 13	22 10	22 10	17 1	...	...	...				
40	Basmer	15 0	5 0	12 0	13 0	13 0	13 0	12 0	12 0	12 0	18 0	17 0	22 0	...	...	...				
CHOTA NAGPORE.																				
South-West Frontier Agency.																				
41	Hazaribagh	14 0	13 0	12 0	12 0	11 0	11 0	10 0	10 0	8 0	20 0	20 0	17 0	...	...	...				
42	Lohardugga	11 12	Red. 12 0	11 0	13 0	13 0	...	16 0	2 0	14 8	20 0	22 0	19 0	...	...	...				
43	Santhoom	10 9	10 0	10 0	20 0	20 0	20 0	16 0	16 0	16 0	20 0	20 0	20 0	...	...	...				
44	Mashtoom	13 5	13 5	11 8	...	...	...	13 0	12 8	13 0	22 0	21 0	23 0	...	...	...				

\* Return not received.

P. At Govt's Bazar retail price of salt 5 seers per rupee.

P1. In some districts retail price of salt per rupee are:—Buzar 10 seers, Basarain 10 seers, and Bhadrach 9 seers.

Q. In some districts retail price of salt per rupee are:—Tajpore 11 seers and Madhubani 10 seers.

R. In some districts retail price of salt per rupee are:—Hajpore 9 seers and Nizamabad 10 seers.

S. At British retail price of salt 5 seers per rupee.

BEERS OF 80 TOLANS.

BAJRA OR COMBU. ( <i>Pennisetum typho-</i> <i>ideum</i> .)			MARUA OR RAGI. ( <i>Echinoe Corocana</i> .)			KANONI OR KAKUN. ITALIAN MILLET. ( <i>Setaria italica</i> .)			GRAM, CHANA, CHHOLA, KADALAY OR SENAGA. ( <i>Cicer aristinum</i> .)		
Present return.	Next preceding re- turn.	Corresponding re- turn of last year.	Present return.	Next preceding re- turn.	Corresponding re- turn of last year.	Present return.	Next preceding re- turn.	Corresponding re- turn of last year.	Present return.	Next preceding re- turn.	Corresponding re- turn of last year.
S. Ch. S. Ch. S. Ch. S. Ch. S. Ch. S. Ch. S. Ch. S. Ch. S. Ch. S. Ch. S. Ch. S. Ch.											
...	...	...	...	...	...	...	...	...	12 0	12 0	11 8
...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	13 14	13 14	12 0
...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	12 0	12 0	10 0
...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	24 0	26 0	...	19 8	19 8	15 5	22 8	23 0	19 0
...	...	...	...	...	...	15 0	15 0	14 4	19 0	20 0	17 0
...	...	...	...	...	...	...	...	...	22 0	22 0	18 0
...	...	...	29 8	25 4	19 12	18 4	...	...	26 0	27 0	17 0
...	...	...	...	...	...	...	...	...	19 0	20 0	16 0
...	...	...	23 8	22 0	20 0	14 4	14 0	15 0	21 3	21 0	17 8
...	...	...	28 8	25 0	23 0	...	...	...	22 0	18 0	15 0
...	...	...	...	...	16 13	15 3	...	10 8	22 5	22 1	19 2
...	...	...	...	...	...	...	...	...	20 3	20 3	16 11
...	...	...	...	...	...	...	...	...	16 0	16 0	13 0
...	...	...	...	...	...	...	...	...	16 0	17 0	12 0
...	...	...	...	...	...	...	...	...	16 0	16 0	14 0
...	...	...	...	...	...	...	...	...	15 2	15 2	13 6
...	...	...	...	...	...	...	...	...	17 1	15 12	13 2
...	...	...	...	...	...	...	...	...	14 0	14 0	13 0
...	...	...	30 0	33 0	20 0	...	...	...	16 0	16 0	14 0
...	...	...	40 0	40 0	29 0	...	...	...	13 8	13 14	15 8
...	...	...	...	...	...	...	...	...	10 0	10 0	12 9
...	...	...	...	...	...	...	...	...	15 8	15 12	13 6



INDIAN-CORN OR MAIZE ( <i>Zea Mays</i> .)			ARHAR OR THUR. CADIAN PEA. ( <i>Cajanus indicus</i> .)			FIREWOOD.		
Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.

S. Ch.	S. Ch.	S. Ch.	S. Ch.	S. Ch.	S. Ch.	S. Ch.	S. Ch.	S. Ch.
...	...	...	...	...	...	100 0	100 0	110
...	...	...	...	...	...	...	...	...
...	...	...	8 6½	8 6½	8 0	...	...	...
...	...	...	...	...	...	320 0	320 0	320
...	...	...	8 0	8 0	8 0	...	...	...

22 8	24 0	20 0	20 0	22 8	22 0	130 0	130 0	130
...	...	...	18 0	18 0	18 0	200 0	200 0	200
...	...	...	19 0	20 0	14 0	140 0	140 0	160
24 0	25 0	18 11	18 0	20 0	20 10½	180 0	160 0	167
24 0	22 0	17 0	18 0	22 0	20 0	160 0	160 0	160
21 14	22 0	20 0	19 8	20 8	20 8	160 0	160 0	160
24 8	25 0	19 0	17 8	17 0	21 0	160 0	160 0	160
24 2	25 4	18 10	17 13	18 14	18 14	147 0	147 0	168
22 11	24 0	18 4	17 11	17 10	17 10	176 12	151 8	169
...	...	...	16 0	15 0	16 0	130 0	130 0	200
...	...	...	...	...	...	160 0	160 0	120
27 0	27 0	19 8	20 0	19 0	23 0	200 0	200 0	200

...	...	...	14 7	17 1	17 1	80 0	80 0	80
...	...	...	15 12	15 12	13 2	80 0	80 0	80
...	...	...	...	...	...	140 0	140 0	160

24 0	26 0	20 0	17 0	...	16 0	200 0	200 0	200
22 0	25 0	18 0	15 8	14 12	16 8	180 0	140 0	140
22 0	22 0	...	13 0	12 0	15 0	200 0	200 0	200
22 0	22 0	20 0	16 0	16 0	16 0	200 0	200 0	200

## Station Bazars of the Districts of Bengal on the 31st December 1889—(concluded).

			WHOLESALE PRICES PER MAUND OF 40 SEERS.			AVERAGE WAGES PER MONTH.												DISTRICTS.
SALT.			SALT.			ABLE-BODIED AGRICULTURAL LABOURER.			BYE OR HORSE- KEEPER.			COMMON MASON, CARPENTER, OR BLACKSMITH.						
Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	
S. Ch.	S. Ch.	S. Ch.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	Rs. A.	
Eastern Districts—concluded.																		
P	9 0	9 0	4 0 0	4 0 0	3 14 0	10 8	8 0	8 0	8 0	8 0	8 0	8 0	8 0	8 0	9 8 to 12 0	9 4 to 12 0	9 0 to 11 0	Chittagong.
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	Noakholly.
8 14	8 14	8 0	4 8 0	4 8 0	4 6 0	..	..	..	..	..	..	..	..	..	..	..	..	Tipperah.
8 0	8 0	8 0	4 8 0	4 8 0	4 8 0	..	..	..	..	..	..	..	..	..	..	..	..	Chittagong Hill Tracts.
8 0	8 0	8 0	4 6 0	4 6 0	4 0 0	8 0	8 0	8 0	6 0	6 0	6 0	15 0	15 0	15 0	15 0	15 0	15 0	Hill Tipperah.
BEHAR.																		
9 8	9 8	10 0	3 14 0	3 14 0	3 13 0	4 0 to 5 0	4 0 to 5 0	4 0 to 5 0	4 8 to 5 0	4 8 to 5 0	4 8 to 5 0	7 0 to 8 0	7 0 to 8 0	6 0 to 8 0	7 0 to 8 0	7 0 to 8 0	6 0 to 8 0	Patna.
9 2	9 2	9 0	4 2 0	4 2 0	..	3 0 to 3 0	3 0 to 3 0	3 0 to 3 0	5 0 to 5 0	5 0 to 5 0	5 0 to 5 0	8 0 to 8 0	8 0 to 8 0	8 0 to 8 0	8 0 to 8 0	8 0 to 8 0	8 0 to 8 0	Gya.
P	10 0	10 0	3 15 0	3 15 0	4 0 0	5 0	5 0	5 0	4 0 to 6 0	4 0 to 6 0	4 0 to 6 0	6 0 to 7 8	6 0 to 7 8	6 0 to 7 8	6 0 to 7 8	6 0 to 7 8	6 0 to 7 8	Shahabad.
Q	10 0	11 8	3 12 0	4 0 0	3 4 0	..	..	..	..	..	..	..	..	..	..	..	..	Darbhunga.
R	10 0	10 0	4 0 0	4 0 0	3 12 0	3 12	3 12	3 12	3 0 to 3 12	3 0 to 3 12	3 0 to 3 12	4 0 to 4 0	4 0 to 4 0	4 0 to 4 0	7 8 to 8 9	5 0 to 6 8	5 0 to 6 8	Muzaffarpore.
9 8	9 8	10 0	4 2 0	4 2 0	3 14 6	7 8 to 2 13	7 8 to 2 13	7 8 to 2 13	7 0 to 4 0	7 0 to 4 0	7 0 to 4 0	10 0 to 5 10	10 0 to 5 10	10 0 to 5 10	10 0 to 5 10	10 0 to 5 10	10 0 to 5 10	Saran.
S	9 8	9 0	4 2 0	3 15 0	4 0 0	3 12	3 12	3 12	4 0 to 5 10	4 0 to 5 10	4 0 to 5 10	6 0 to 8 0	6 0 to 8 0	6 0 to 8 0	9 6 to 12 0	9 6 to 12 0	9 6 to 12 0	Chumparan.
T	11 0	9 8	3 14 6	3 14 6	4 0 0	5 10	5 10	5 10	4 0 to 5 0	4 0 to 5 0	4 0 to 5 0	8 0 to 8 0	8 0 to 8 0	8 0 to 8 0	12 0 to 12 0	12 0 to 12 0	12 0 to 12 0	Monohyr.
10 1	10 1	10 1	3 15 6	3 15 6	4 0 0	3 12	3 12	3 12	4 0 to 5 10	4 0 to 5 10	4 0 to 5 10	8 0 to 11 4	8 0 to 11 4	8 0 to 11 4	7 8 to 11 4	7 8 to 11 4	7 8 to 11 4	Dhargulpore.
11	10 0	9 0	4 0 0	4 7 0	4 5 4	5 10 to 6 9	5 10 to 6 10	5 10 to 6 10	5 0 to 5 0	5 0 to 5 0	5 0 to 5 0	11 4 to 10 0	11 4 to 10 0	11 4 to 10 0	7 0 to 10 0	7 0 to 10 0	7 0 to 10 0	Purneah.
9 0	8 8	9 0	4 4 0	4 6 0	4 1 6	7 8	7 8	7 8	5 0 to 6 0	5 0 to 6 0	5 0 to 6 0	8 0 to 12 0	8 0 to 12 0	8 0 to 12 0	10 0 to 15 0	10 0 to 15 0	10 0 to 15 0	Maldah.
9 4	9 4	9 0	4 0 0	4 0 0	4 5 0	8 12	8 12	8 12	5 0	5 0	5 0	10 0	10 0	10 0	7 8 to 9 6	7 8 to 9 6	7 8 to 9 6	Sonthal Pergah.
ORISSA.																		
11 0	11 0	11 0	3 12 0	3 12 0	3 12 0	..	..	..	..	..	..	..	..	..	..	..	..	Cuttack.
V	11 13	11 13	3 6 0	3 6 0	3 6 0	..	..	..	..	..	..	..	..	..	..	..	..	Pooree.
W	9 8	9 0	3 15 0	4 2 0	3 13 0	4 0 to 5 0	4 0 to 5 0	4 0 to 5 0	4 0 to 5 0	4 0 to 5 0	4 0 to 5 0	7 0 to 10 0	7 0 to 10 0	7 8 to 12 3	7 0 to 10 0	7 0 to 10 0	7 8 to 12 3	Balasore.
CHOTA NAGPORE.																		
South-West Frontier Agency.																		
8 0	8 0	8 0	4 0 0	4 8 0	4 4 0	4 8	3 12	3 12	4 0 to 5 0	4 0 to 5 0	4 0 to 5 0	7 8	8 0	7 8	7 8	8 0	7 8	Hazaribagh.
8 6	8 4	8 6	4 9 0	4 10 0	4 12 0	8 4 to 3 12	8 4 to 3 12	8 4 to 3 12	3 8 to 6 0	3 8 to 6 0	3 8 to 6 0	11 4 to 13 1	11 4 to 13 1	6 0 to 12 0	11 4 to 13 1	11 4 to 13 1	6 0 to 12 0	Lohardugga.
7 0	7 0	7 0	5 8 0	5 8 0	5 8 0	..	..	..	..	..	..	..	..	..	..	..	..	Singbhoom.
X	9 2	8 8	4 2 0	4 6 0	4 3 0	..	..	..	..	..	..	..	..	..	..	..	..	Nanbhoom.

T In subdivisions retail prices of salt per rupee are:—Begusarai 9½ seers and Jamni 9 seers.  
 U In subdivisions retail prices of salt per rupee are:—Kisungungo 8 seers and Arraroh (at Ranigunge) 9 seers.  
 V In Khondah subdivision retail price of salt 11 seers per rupee.  
 W At Bhatnagar retail price of salt 9 seers per rupee.  
 X At Govindpur retail price of salt 9 seers per rupee.

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P. NOLAN,  
 Secy. to the Govt. of Bengal.

## PRICES-CURRENT (wholesale) of Food-grains, Firewood, and Salt

Number.	MARKS.	WHEAT.			BARLEY.			RICE, BEST SORT.			RICE, COMMON.		
		Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.
		R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.
1	Calcutta	2 12 2	2 12 3	2 14 3	2 2 8	2 1 11	2 2 3	4 0 6	4 10 2	3 11 0	2 11 4	2 12 0	2 0 4
2	Berajgunge	2 4 0	2 8 0	2 5 0	...	...	...	5 8 0	5 8 0	3 6 0	2 12 0	3 0 0	2 6 0
3	Dacca	3 0 0	3 0 0	2 10 0	2 7 0	2 7 0	1 15 0	3 0 0	3 4 0	2 12 0	2 7 0	2 12 0	2 8 0
4	Neraingunge	...	...	...	...	...	...	3 0 0	3 4 0	2 4 0	2 12 0	3 0 0	2 3 0
5	Chittagong	3 8 0	3 8 0	3 8 0	...	...	...	4 8 0	4 8 0	2 12 0	2 8 0	2 8 0	2 1 0
6	Patna	2 4 6	2 4 0	...	1 10 0	1 9 6	1 14 0	3 12 0	3 12 0	3 8 0	2 2 0	2 0 0	2 7 0
		2 9 0	2 9 0	2 8 0									
7	Balsore	2 8 0	2 8 0	3 8 0	3 0 0	3 0 0	3 0 0	3 4 0	3 4 0	3 4 0	2 4 0	2 4 0	1 10 0
8	Poorce	...	...	...	...	...	...	...	...	...	1 5 0	1 15 0	2 2 6
9	Cuttack	3 0 0	3 0 0	3 0 0	...	...	...	3 0 0	3 0 0	3 4 0	2 0 0	2 3 0	2 0 0

CALCUTTA,  
The 7th January, 1890.

PRICES PER MAUND					
JOWAR OR CHOLU. ( <i>Sorghum Vulgare</i> .)			BAJRA OR CUMBU. ( <i>Pennisetum typhoides</i> .)		
Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.
R.A.P.	R.A.P.	R.A.P.	R.A.P.	R.A.P.	R.A.P.
2 1 7 2	7 0 2	0 0 2	13 7 2	12 3 3	1 0
...	...	...	...	...	...
...	...	...	...	...	...
...	...	...	...	...	...
...	...	...	...	...	...
1 12 0 1	9 0	...	...	...	...
...	...	...	...	...	...
...	...	...	...	...	...
...	...	...	...	...	...



OF 40 SEERS.

MARUA OR RAGI. (Eleusine Coracana.)			KANKONI OR KAKUN. ITALIAN MILLET. (Setaria italica.)		
Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.
R.A.P.	R.A.P.	R.A.P.	R.A.P.	R.A.P.	R.A.P.
...	...	...	2 4 82	6 02	0 0
...	...	...	...	...	...
...	...	...	...	...	...
...	...	...	...	...	...
...	...	...	...	...	...
1 10 01	7 0	...	2 0 02	6 02	8 0
...	...	...	...	...	...
...	...	...	...	...	...
...	...	...	...	...	...

in the undermentioned *Marts* of Bengal on the 31st December 1889.

GRAM, CHAWA, CHHOLA, KADALAY OR SUNAGA. ( <i>Cocc. Aristinum.</i> )			INDIAN-CORN OR MAIZE. ( <i>Zea Mays.</i> )			ARHAR OR TUR. CAJAN PEA. ( <i>Cajanus indicus.</i> )			FIRWOOD.			SALT.			MARTS.
Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	
R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	
2 3 10	2 4 6	2 6 9	1 15 1	1 14 7	2 2 0	2 2 11	2 2 7	2 2 6	0 5 6	0 5 6	0 6 0	3 11 11	3 11 1	3 9 6	Calcutta.
3 0 0	3 4 0	3 5 0	...	...	...	...	...	...	...	...	...	4 2 0	4 2 0	3 13 0	Berajunge.
3 0 0	3 0 0	3 0 0	...	...	...	2 12 0	2 12 0	2 8 0	0 4 0	0 4 0	0 5 0	4 4 0	4 4 0	4 4 0	Dacca.
3 0 0	3 0 0	3 0 0	...	...	...	3 4 0	3 4 0	3 2 0	0 8 0	0 8 0	0 10 0	4 0 0	4 0 0	3 12 0	Haraingunge.
3 0 0	3 0 0	3 6 0	...	...	...	...	...	...	0 7 0	0 7 0	0 5 0	4 0 0	4 0 0	3 14 0	Chittagong.
1 12 0	1 10 6	2 1 0	1 12 0	1 9 6	1 15 0	1 14 0	1 12 0	1 12 0	0 5 0	0 5 0	0 5 3	3 14 0	3 14 0	3 13 0	Patna.
2 12 0	2 12 0	3 2 0	...	...	...	...	...	...	0 5 0	0 5 0	0 4 6	3 15 0	4 2 0	3 13 0	Balasore.
...	...	...	...	...	...	...	...	...	...	...	...	3 6 0	3 6 0	3 8 0	Pooree.
2 11 0	2 11 0	3 2 0	...	...	...	2 12 0	2 2 0	2 2 0	0 8 0	0 8 0	0 8 0	3 12 0	3 12 0	3 12 0	Cuttack.

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P. NOLAN,  
Secy. to the Govt. of Bengal.

## Meteorological Report of the Province of Bengal

\* Means of five days. † Means of six days.

for the week ending Friday, the 3rd of January 1890.

DISTRICT OBSERVATIONS.															Representative station.	District.	METEOROLOGICAL DIVISION.
Average humidity at 8 A.M.	Average cloud amount at 8 A.M. for week.	Rainfall of week at observing station.	OF WEEK.		RAINFALL.												
			Mean for district.	Normal mean.	Since 1st of December 1889.			Since May 15th, 1889.			Average number of rainy days.	Normal number of rainy days.					
					Mean for district.	Normal mean.	Variation.	Mean for district.	Normal mean.	Variation.							
66	0.7	Nil	Nil	0.08	0.25	0.16	-0.17	74.98	55.18	+19.70	0.0	0.1	Poorce	Poorce	ORISSA.		
70	0.6	Nil	Nil	0.01	0.05	0.04	-0.04	66.34	51.55	+14.79	0.0	0.1	Cuttack	Cuttack			
67	0.6	Nil	Nil	0.10	0.05	0.05	-0.04	46.80	52.05	-5.25	0.0	0.3	Balasore	Balasore			
75	0.7	Nil	Nil	0.10	0.05	0.05	-0.04	46.80	52.05	-5.25	0.0	0.3	Balasore	Balasore	SOUTH-WEST BENGAL.		
67	1.0	Nil	Nil	0.06	0.04	0.02	-0.02	54.43	53.04	-1.39	0.0	0.1	Saugor Island	South-West Midnapore			
72	1.0	Nil	Nil	0.14	Nil	0.14	-0.20	44.29	51.14	-6.85	0.0	0.3	Midnapore	Midnapore			
62	0	Nil	Nil	0.09	Nil	0.09	-0.38	55.50	51.35	+4.15	0.0	0.3	Calcutta	St. Perennanah	SOUTH-WEST BENGAL.		
73	0	Nil	Nil	0.03	Nil	0.03	-0.31	45.53	46.31	-0.78	0.0	0.1	Burdwan	Burdwan			
72	1.1	Nil	Nil	0.01	Nil	0.01	-0.31	55.88	52.29	+3.59	0.0	0.1	Bankura	Bankura			
74	0	Nil	Nil	0.03	Nil	0.03	-0.18	52.44	51.19	+1.25	0.0	0.1	Ranagunge	Ranagunge	SOUTH-WEST BENGAL.		
67	0	Nil	Nil	0.04	Nil	0.04	-0.18	51.15	50.03	+1.12	0.0	0.1	Berhampore	Berhampore			
65	0	Nil	Nil	0.07	Nil	0.07	-0.21	51.49	48.90	+2.59	0.0	0.2	Krishnanagar	Krishnanagar			
68	0.3	Nil	Nil	0.07	0.06	0.01	-0.27	53.30	53.71	-0.41	0.0	0.2	Jessore	Jessore	SOUTH-WEST BENGAL.		
91	0.7	Nil	Nil	0.06	0.42	0.36	-0.30	100.02	115.04	-15.02	0.0	0.2	Chittagong	Chittagong			
91	0	Nil	Nil	0.05	0.68	0.63	-0.63	65.18	50.55	+14.63	0.0	0.2	Demagiri	Chittagong Hill Tracts			
91	0	Nil	Nil	0.05	0.34	0.29	-0.24	77.62	76.37	+1.25	0.0	0.2	Barrisal	Barrisal	EAST BENGAL.		
90	0	Nil	Nil	0.20	0.26	0.06	-0.06	90.29	104.91	-14.62	0.0	0.3	Noakhally	Noakhally			
91	0	Nil	Nil	0.05	0.02	0.03	-0.16	60.23	55.44	+4.79	0.0	0.1	Furzedpore	Furzedpore			
86	1.9	Nil	Nil	0.04	Nil	0.04	-0.39	74.59	69.35	+5.24	0.0	0.1	Dacca	Dacca	EAST BENGAL.		
86	0	Nil	Nil	0.07	0.03	0.04	-0.43	55.45	59.97	-4.52	0.0	0.2	Comilla	Comilla			
93	1.4	Nil	Nil	0.09	Nil	0.09	-0.24	57.63	57.22	+0.41	0.0	0.2	Mymensingh	Mymensingh			
90	0	Nil	Nil	0.05	0.01	0.04	-0.18	64.81	55.94	+8.87	0.0	0.1	Bogra	Bogra	EAST BENGAL.		
90	0.3	Nil	Nil	0.05	0.08	0.03	-0.09	55.07	52.90	+2.17	0.0	0.1	Serajpore	Serajpore			
82	0	Nil	Nil	0.01	Nil	0.01	-0.14	54.30	53.33	+0.97	0.0	0.1	Rampore	Rampore			
98	0	Nil	Nil	0.03	Nil	0.03	-0.13	30.76	53.75	-22.99	0.0	0.1	Maldah	Maldah	NORTH BENGAL.		
92	1.8	Nil	Nil	0.01	Nil	0.01	-0.19	57.37	56.00	+1.37	0.0	0.1	Dinapore	Dinapore			
90	0	Nil	Nil	0.03	Nil	0.03	-0.18	55.16	75.73	-20.57	0.0	0.1	Rangpore	Rangpore			
89	0	Nil	Nil	0.01	Nil	0.01	-0.17	117.13	111.20	+5.93	0.0	0.1	Jalpaiguri	Jalpaiguri	NORTH BENGAL.		
87	0.9	Nil	Nil	0.05	Nil	0.05	-0.34	122.75	120.29	+2.46	0.0	0.2	Darjeeling	Darjeeling			
94	0.9	Nil	Nil	0.03	Nil	0.03	-0.14	74.71	58.15	+16.56	0.0	0.1	Purneah	Purneah			
87	0	Nil	Nil	0.00	Nil	0.00	-0.14	48.66	48.63	+0.03	0.0	0.2	Mozufferpore	Mozufferpore	NORTH BENGAL.		
87	0	Nil	Nil	0.09	Nil	0.09	-0.17	51.84	44.10	+7.74	0.0	0.3	Durbhanga	Durbhanga			
80	0	Nil	Nil	0.03	Nil	0.03	-0.33	63.50	65.14	-1.64	0.0	0.3	Motihari	Motihari			
74	0	Nil	Nil	0.02	Nil	0.02	-0.17	40.13	43.21	-3.08	0.0	0.1	Chupra	Chupra	NORTH BENGAL.		
74	0	Nil	Nil	0.00	Nil	0.00	-0.28	46.07	39.03	+7.04	0.0	0.3	Dohree	Dohree			
82	0.1	Nil	Nil	0.00	Nil	0.00	-0.29	37.07	40.09	-3.02	0.0	0.3	Gya	Gya			
87	0	Nil	Nil	0.06	Nil	0.06	-0.18	43.49	40.81	+2.68	0.0	0.3	Bankipore	Bankipore	NORTH BENGAL.		
87	0	Nil	Nil	0.04	Nil	0.04	-0.11	43.43	43.08	+0.35	0.0	0.3	Bhagulpore	Bhagulpore			
80	0	Nil	Nil	0.05	Nil	0.05	-0.12	54.15	50.54	+3.61	0.0	0.4	Dumka	Dumka			
64	0	Nil	Nil	0.04	Nil	0.04	-0.31	43.03	50.11	-7.08	0.0	0.1	Hazaribagh	Hazaribagh	NORTH BENGAL.		
71	0.9	Nil	Nil	0.04	Nil	0.04	-0.42	44.34	48.04	-3.70	0.0	0.2	Ranchi	Ranchi			
75	0.5	Nil	Nil	0.03	Nil	0.03	-0.23	38.33	46.46	-8.13	0.0	0.1	Chyabassa	Chyabassa			

ten years. The variations are negative when the mean for the week is less than the corresponding normal mean, and positive when greater. The means of the district are the numerical average of the rainfall return received in the district, i.e., from total rainfall at the subdivisional stations.



Statement of Rainfall in Bengal for the week ending Friday (8 a.m.), the 3rd of January 1890.

[illegible]

## Statement of Rainfall in Bengal for the week ending Friday (8 a.m.), the 3rd of January 1890—contd.

Meteorological Division.	District.	Station.	RAINFALL.							TOTAL.		Total rain-fall since 1st of December 1889.	Average total rain-fall from 1st of December 1889.	Total rain-fall since 15th May 1889.	Average rain-fall from 15th May 1889 to date.
			Saturday, 26th December 1889.	Sunday, 27th December.	Monday, 28th December.	Tuesday, 29th December.	Wednesday, 30th January 1890.	Thursday, 31st January.	Friday, 2nd January.	Number of rainy days.	of Rainfall week.				
EAST BENGAL—contd.	Noakholly	Gournadai	...	...	...	...	...	...	...	NH	NH	0.35	?	92.90	?
		Bauphal	...	...	...	...	...	...	...	NH	NH	0.19	0.15	102.17	107.71
		Noakholly	...	...	...	...	...	...	...	NH	NH	0.40	1.25	78.38	106.15
		Fenny	...	...	...	...	...	...	...	NH	NH	0.30	?	89.96	?
	Furzedpore	Harishpore	...	...	...	...	...	...	...	NH	NH	0.30	?	89.75	?
		Bangun	...	...	...	...	...	...	...	NH	NH	0.05	0.30	80.00	84.70
	Dacca	Furzedpore	...	...	...	...	...	...	...	NH	NH	0.16	0.15	83.50	85.95
		Goalundo	...	...	...	...	...	...	...	NH	NH	0.15	0.15	89.20	82.61
		Munshingunge	...	...	...	...	...	...	...	NH	NH	0.40	0.40	76.58	80.61
		Dacca	...	...	...	...	...	...	...	NH	NH	0.23	0.23	73.49	84.04
	Hill Tipperah	Narainkunge	...	...	...	...	...	...	...	NH	NH	0.40	0.40	80.30	89.45
		Manickgunge	...	...	...	...	...	...	...	NH	NH	0.15	0.15	87.00	40.00
		Joydebpore	...	...	...	...	...	...	...	NH	NH	0.45	?	80.01	?
		Agartola	...	...	...	...	...	...	...	NH	NH	0.08	0.08	44.08	80.08
	Tipperah	Comilla	...	...	...	...	...	...	...	NH	NH	0.08	0.08	62.17	75.49
		Chandpore	...	...	...	...	...	...	...	NH	NH	0.45	0.45	64.82	72.27
		Brahmunberia	...	...	...	...	...	...	...	NH	NH	0.37	?	50.08	81.00
		Ramchandrapore	...	...	...	...	...	...	...	NH	NH	?	?	60.14	?
	Mymensingh	Narainpore	...	...	...	...	...	...	...	NH	NH	?	?	50.10	?
		Darbhanga	...	...	...	...	...	...	...	NH	NH	?	?	22.24	?
		Kasba	...	...	...	...	...	...	...	NH	NH	?	?	02.14	?
		Lakeham	...	...	...	...	...	...	...	NH	NH	?	?	09.00	?
	Pubna	Kishoreganj	...	...	...	...	...	...	...	NH	NH	0.30	0.30	69.60	80.58
		Atia (Tangail)	...	...	...	...	...	...	...	NH	NH	0.10	0.10	61.00	80.00
		Mymensingh	...	...	...	...	...	...	...	NH	NH	0.02	0.02	64.55	75.43
		Jamulpore	...	...	...	...	...	...	...	NH	NH	0.31	0.31	80.16	84.75
	Bogra	Narainkunge	...	...	...	...	...	...	...	NH	NH	0.19	?	127.02	72.61
		Subarnachal	...	...	...	...	...	...	...	NH	NH	?	?	67.63	?
		Buraganga	...	...	...	...	...	...	...	NH	NH	?	?	140.00	?
		Shorepore Tawa	...	...	...	...	...	...	...	NH	NH	?	?	87.00	?
	Bogra	Debagang	...	...	...	...	...	...	...	NH	NH	?	?	54.31	?
		Pubna	...	...	...	...	...	...	...	NH	NH	0.04	0.15	40.87	37.00
		Serajgunge	...	...	...	...	...	...	...	NH	NH	0.18	0.17	00.26	52.43
		Sherpore	...	...	...	...	...	...	...	NH	NH	0.23	0.23	02.06	37.09
	Majshah	Nowkhilla	...	...	...	...	...	...	...	NH	NH	0.18	0.18	00.40	51.47
		Bogra	...	...	...	...	...	...	...	NH	NH	0.03	0.14	70.63	09.17
		Panchthi	...	...	...	...	...	...	...	NH	NH	0.10	0.10	64.08	05.47
		Manikgunge	...	...	...	...	...	...	...	NH	NH	0.11	0.11	47.30	52.53
	Maldah	Narain	...	...	...	...	...	...	...	NH	NH	0.12	0.12	24.41	51.11
		Narain	...	...	...	...	...	...	...	NH	NH	0.12	0.12	67.87	00.64
		Lalpur	...	...	...	...	...	...	...	NH	NH	?	?	30.02	?
		Manda	...	...	...	...	...	...	...	NH	NH	?	?	45.57	?
	Dinapore	Maldah	...	...	...	...	...	...	...	NH	NH	0.17	0.17	50.23	61.70
		Chanchal	...	...	...	...	...	...	...	NH	NH	0.07	0.07	24.04	05.20
		Gajol	...	...	...	...	...	...	...	NH	NH	?	?	50.70	?
		Silganj	...	...	...	...	...	...	...	NH	NH	?	?	61.77	?
	Jalpaiguri	Mohadepore	...	...	...	...	...	...	...	NH	NH	0.18	0.18	63.08	63.53
		Churamun	...	...	...	...	...	...	...	NH	NH	0.18	0.18	61.82	61.23
		Kamalgunge	...	...	...	...	...	...	...	NH	NH	0.18	0.18	62.22	57.05
		Dinapore	...	...	...	...	...	...	...	NH	NH	0.11	0.11	67.84	60.08
	Jalpaiguri	Thakergang	...	...	...	...	...	...	...	NH	NH	0.20	?	61.25	50.00
		Thakergang	...	...	...	...	...	...	...	NH	NH	?	?	82.47	?
		Thakergang	...	...	...	...	...	...	...	NH	NH	0.19	0.19	87.03	07.23
		Thakergang	...	...	...	...	...	...	...	NH	NH	0.10	0.10	74.41	77.01
	Jalpaiguri	Thakergang	...	...	...	...	...	...	...	NH	NH	0.10	0.10	90.97	72.81
		Thakergang	...	...	...	...	...	...	...	NH	NH	0.22	0.22	87.00	54.06
		Thakergang	...	...	...	...	...	...	...	NH	NH	?	?	70.00	?
		Thakergang	...	...	...	...	...	...	...	NH	NH	0.11	0.11	123.27	110.45
	Cooch Behar	Thakergang	...	...	...	...	...	...	...	NH	NH	?	?	110.00	?
		Thakergang	...	...	...	...	...	...	...	NH	NH	?	?	127.43	?
		Thakergang		...	...	...	...	...	...	...	NH	NH	?	?	80.00	?
		Thakergang		...	...	...	...	...	...	...	NH	NH	?	?	138.01	?
	Darjeeling Hill	Thakergang	...	...	...	...	...	...	...	NH	NH	0.20	0.20	04.00	50.72
		Thakergang	...	...	...	...	...	...	...	NH	NH	0.12	0.12	120.00	117.00
		Thakergang	...	...	...	...	...	...	...	NH	NH	0.20	0.20	121.07	100.21
		Thakergang	...	...	...	...	...	...	...	NH	NH	0.15	0.15	117.03	111.16
	Purneah	Thakergang	...	...	...	...	...	...	...	NH	NH	0.01	0.01	101.04	100.71
		Thakergang	...	...	...	...	...	...	...	NH	NH	0.11	0.11	120.71	100.50
		Thakergang	...	...	...	...	...	...	...	NH	NH	0.20	0.20	127.87	108.14
		Thakergang	...	...	...	...	...	...	...	NH	NH	0.43	0.43	91.36	82.06
	North Bhagalpore	Thakergang	...	...	...	...	...	...	...	NH	NH	?	?	104.23	?
		Thakergang	...	...	...	...	...	...	...	NH	NH	0.16	0.16	102.37	09.51
		Thakergang	...	...	...	...	...	...	...	NH	NH	0.11	0.11	70.61	03.27
		Thakergang	...	...	...	...	...	...	...	NH	NH	0.18	0.18	03.45	01.10
	Dumkura	Thakergang	...	...	...	...	...	...	...	NH	NH	?	?	?	?
		Thakergang	...	...	...	...	...	...	...	NH	NH	?	?	?	?
		Thakergang	...	...	...	...	...	...	...	NH	NH	?	?	?	?
		Thakergang	...	...	...	...	...	...	...	NH	NH	?	?	?	?
	North Bhagalpore	Thakergang	...	...	...	...	...	...	...	NH	NH	0.10	0.10	00.85	00.00
		Thakergang	...	...	...	...	...	...	...	NH	NH	0.15	0.15	07.20	47.74
		Thakergang	...	...	...	...	...	...	...	NH	NH	?	?	07.55	?
		Thakergang	...	...	...	...	...	...	...	NH	NH	0.20	0.20	42.44	43.71
	Dumkura	Thakergang	...	...	...	...	...	...	...	NH	NH	0.19	0.19	00.01	43.15
		Thakergang	...	...	...	...	...	...	...	NH	NH	?	?	03.11	43.04
		Thakergang	...	...	...	...	...	...	...	NH	NH	?	?	00.00	?
		Thakergang	...	...	...	...	...	...	...	NH	NH	?	?	05.54	?
	Moulvibazar	Thakergang	...	...	...	...	...	...	...	NH	NH	0.16	0.16	00.00	00.00
		Thakergang	...	...	...	...	...	...	...	NH	NH	0.10	0.10	44.41	44.70
		Thakergang	...	...	...	...	...	...	...	NH	NH	0.14	0.14	07.32	41.61
		Thakergang	...	...	...	...	...	...	...	NH	NH	?	?	31.00	?
	Moulvibazar	Thakergang	...	...	...	...	...	...	...	NH	NH	?	?	41.02	?
		Thakergang	...	...	...	...	...	...	...	NH	NH	?	?	?	?
		Thakergang	...	...	...	...	...	...	...	NH	NH	?	?	07.00	?
		Thakergang	...	...	...	...	...	...	...	NH	NH	?	?	?	?

## Statement of Rainfall in Bengal for the week ending Friday (8 a.m.), the 3rd of January 1890—concl.

Meteorological Division.	District.	Station.	RAINFALL.							TOTAL.		Total rain-fall since 1st of December 1889.	Average total rain-fall since 1st of December 1889.	Total rain-fall since 15th May 1889.	Average rainfall from 15th May 1889 to date.
			Saturday 23rd December 1889.	Sunday 24th December.	Monday 25th December.	Tuesday 26th December.	Wednesday 27th January 1890.	Thursday 28th January.	Friday 29th January.	Number of rainy days.	of Rainfall week.				
NORTH BENGAL—concluded.	Chhumbpur.	Mothari	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0.00	0.00	74.78	44.30
		Bethbari	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0.00	0.00	58.23	47.40
		Bethbari	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0.00	0.00	58.23	47.40
SOUTH BENGAL	Sara.	Gopalpur	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0.00	0.00	35.48	42.73
		Gopalpur	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0.00	0.00	44.20	41.34
		Chuprah	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0.00	0.00	40.74	38.94
	Shahabad.	Bethbari	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0.00	0.00	47.41	37.48
		Bethbari	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0.00	0.00	47.41	37.48
		Bethbari	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0.00	0.00	47.41	37.48
	Gya.	Aurungabad	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0.00	0.00	35.48	42.73
		Gya	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0.00	0.00	44.20	41.34
		Nowadab	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0.00	0.00	40.74	38.94
	Patna.	Jehanabad	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0.00	0.00	47.41	37.48
		Arwal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0.00	0.00	47.41	37.48
		Bandhupur	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0.00	0.00	47.41	37.48
CENTRAL NAGPUR.	Monghyr.	Begumbari	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0.00	0.00	35.48	42.73
		Monghyr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0.00	0.00	44.20	41.34
		Jamui	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0.00	0.00	40.74	38.94
	South Bhagal-pore.	Shahpur	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0.00	0.00	47.41	37.48
		Bhagalpur	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0.00	0.00	47.41	37.48
		Bhagalpur	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0.00	0.00	47.41	37.48
	South Patna.	Rajmahal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0.00	0.00	35.48	42.73
		Godda	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0.00	0.00	44.20	41.34
		Patna	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0.00	0.00	40.74	38.94
SOUTH BENGAL	Hemribach.	Nya Dumbur	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0.00	0.00	47.41	37.48
		Deochur	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0.00	0.00	47.41	37.48
		Jamui	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0.00	0.00	47.41	37.48
	Lohardugga.	Mahadul Hills	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0.00	0.00	35.48	42.73
		Bara	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0.00	0.00	44.20	41.34
		Chakra	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0.00	0.00	40.74	38.94
	Singbhum.	Karagaha	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0.00	0.00	47.41	37.48
		Ramgarh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0.00	0.00	47.41	37.48
		Chakradhar	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0.00	0.00	47.41	37.48
	Manbhum.	Chakradhar	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0.00	0.00	35.48	42.73
		Chakradhar	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0.00	0.00	44.20	41.34
		Chakradhar	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0.00	0.00	40.74	38.94

Explanation.—Indicates that no rain has fallen. If the return for any day has not been received, the corresponding space is left blank. If any of the returns are wanting, the corresponding spaces in the total rainfall columns are left blank.

CALCUTTA, the 7th January 1890.

**SUMMARY OF THE METEOROLOGICAL AND RAINFALL OBSERVATIONS  
TAKEN IN BENGAL FOR THE WEEK ENDING FRIDAY, THE 3RD  
JANUARY 1890.**

THE meteorology of the week ending the 27th of December 1889 had been important from the formation of a cyclonic storm in the south of the Bay which had advanced in a north-westerly direction, crossing the Madras coast between Masulipatam and Nellore on the afternoon or evening of December 26th. An advance of humid winds had passed over Bengal in connection with the storm, and heavily-clouded skies and in a few cases light rain showers had occurred over the southern districts of the province. With the gradual disappearance of the storm, and on its passing inland on the 26th, the weather in Bengal began to improve, and on the 26th and 27th conditions were decidedly less disturbed than they had been, while the skies had even commenced to clear.

The gradual return to the normal conditions for the cold weather season which had therefore commenced at the close of last week, continued at the beginning of the present week, and by the middle of the week conditions had become nearly normal. In the earlier part of the week, therefore, temperature, and particularly the night temperatures, fell rather rapidly, humidity also decreased, and the sky cleared rather quickly, while rainfall became entirely absent.

**Pressure**—Rose very slowly on the first day of the week, it then fell moderately for the next three or four days, commencing to rise again rather briskly on the 2nd January, which rise continued on the 3rd. The mean pressure of the province for the week has, however, been very considerably in defect of the normal, the defect usually ranging from five to about eight hundredths of an inch. This defect has been fairly equally distributed over the whole province.

**Temperature**—Has fallen generally during the week, but still the average mean temperature of the province has been nearly 2° above the normal. This excess has been largest in South-West and East Bengal and in South Behar, where the excess has equalled between two and three degrees.

The general temperature recorded during the week in the different districts of the province can be seen from the following table, where the average maximum, minimum and mean temperatures at nine typical stations are compared with their normal values for the same period. It will be seen that exceptionally high day temperatures have been recorded at Darjeeling, where the actual is almost 10° higher than the normal. The night temperatures at the same station exceed the normal by three degrees. Generally speaking, however, the excess temperatures are fairly equally divided over both day and night:—

*Table showing the excess or defect of the actual mean temperature from the normal for the week ending 3rd January 1890.*

					Normal mean maximum temperature for the week ending 3rd January.	Actual mean maximum temperature for the week ending 3rd January 1890.	Variation of actual mean from the normal.	Normal mean minimum temperature for the week ending 3rd January.	Actual mean minimum temperature for the week ending 3rd January 1890.	Variation of actual mean from the normal.	Normal mean daily temperature for the week ending 3rd January.	Actual mean daily temperature for the week ending 3rd January 1890.	Variation of actual mean from the normal.
Calcutta	000	000	000	000	83.5	83.8	+0.3	59.3	59.7	+0.4	70.8	71.3	+0.5
Dacca	000	000	000	000	75.3	76.6	+1.3	55.3	56.4	+1.1	65.3	66.5	+1.2
Burdwan	000	000	000	000	76.7	77.9	+1.2	55.4	56.6	+1.2	65.4	66.6	+1.2
Patna	000	000	000	000	76.6	77.6	+1.0	55.9	56.9	+1.0	65.6	66.6	+1.0
Gya	000	000	000	000	71.9	74.4	+2.5	48.7	51.4	+2.7	60.5	63.0	+2.5
Purnea	000	000	000	000	73.9	75.8	+1.9	50.9	51.4	+0.5	62.0	63.0	+1.0
Benares	000	000	000	000	74.2	75.4	+1.2	47.1	49.0	+1.9	60.6	61.4	+0.8
Benarshigh	000	000	000	000	71.0	72.1	+1.1	46.3	48.3	+2.0	60.3	61.3	+1.0
Darjeeling	000	000	000	000	64.8	73.7	+8.9	34.6	38.1	+3.5	50.9	59.9	+9.0

**Rainfall**—Has been entirely absent from the province throughout the week.

The following table gives the summary of the temperature and rainfall data of each of the seven meteorological divisions of the province for the week ending Friday, the 3rd of January 1890 :—

METEOROLOGICAL DIVISIONS.	TEMPERATURE.						RAINFALL.									
	Highest observed during week.	Lowest observed during week.	Averages for week.			Average mean of week above or below normal mean of week.	Of week.			Rainy days.			Since 1st of Decem-ber 1889.		Since 15th May 1889.	
			Of highest of each day.	Of lowest of each day.	Of mean for each day.		Average.	Normal average.	Variation.	Average number in week.	Normal average number in week.	Variation.	Average.	Normal average.	Average.	Normal average.
Orissa* ... ..	84°5	51°0	80°4	59°0	79°0	+1°5	Nil	0°05	-0°05	0°0	0°2	-0°2	0°12	0°50	62°01	63°54
South-West Bengal ... ..	81°5	40°0	77°2	55°0	68°4	+2°5	Nil	0°06	-0°06	0°0	0°1	-0°1	0°01	0°30	59°37	51°50
East Bengal ... ..	81°5	55°0	76°0	54°2	68°5	+2°5	Nil	0°07	-0°07	0°0	0°3	-0°3	0°10	0°42	75°03	73°75
North Bengal* ... ..	78°0	60°1	70°0	55°8	64°5	+1°5	Nil	0°02	-0°02	0°0	0°1	-0°1	0°01	0°17	73°15	69°57
North Behar* ... ..	76°4	44°0	74°4	50°0	62°1	+1°5	Nil	0°05	-0°05	0°0	0°1	-0°1	Nil	0°10	57°05	46°31
South Behar ... ..	78°8	47°0	75°1	51°1	65°1	+2°0	Nil	0°05	-0°05	0°0	0°1	-0°1	Nil	0°23	64°16	63°20
Chota Nagpur ... ..	78°5	45°1	75°0	49°0	61°5	+1°5	Nil	0°05	-0°05	0°0	0°1	-0°1	Nil	0°23	45°00	46°00

\* Pooree, Jalaporee, Chupre and Chyebasse not included.

METEOROLOGICAL OFFICE, BENGAL ;

The 7th January 1890.

A. PEDLER,

Meteorological Reporter to the Govt. of Bengal.



**Abstract of the results of Meteorological Observations taken at the Alipore Observatory in the month of December 1889.**

	Inches.	Date.	Hour.
The mean pressure of the month ... ..	29.987		
The average pressure of December from 24 years' registers ...	30.027		
The highest pressure in the month ... ..	30.137	18th	10
The lowest pressure in the month ... ..	29.837	31st	16
The range of pressure ... ..	0.301		
<hr/>			
The total number of hours of bright sunshine during the month	Hours. 254.6		
The maximum possible number of hours of sunshine ...	332.8		
<hr/>			
The mean temperature of the month ... ..	66.2		
The average temperature of December from 24 years' registers	68.0		
The highest temperature in the month ... ..	80.1	26th.	
The lowest temperature in the month ... ..	51.3	14th.	
The range of temperature during the month ... ..	28.8		
The mean daily range of temperature ... ..	19.2		
The greatest range of temperature in one day ... ..	23.2	14th.	
<hr/>			
<i>Per cent.</i>			
The mean humidity of the month ... ..	74		
The average humidity of December from 24 years' registers ...	71		
<hr/>			
<i>Inches.</i>			
The mean vapour tension of the month ... ..	0.474		
The average vapour tension of December from 9 years' registers	0.476		
The mean cloud proportion of the month ... ..	1.49		
The average cloud proportion of December from 12 years' registers ... ..	1.74		
<hr/>			
<i>Inches.</i>			
The total rainfall of the month ... ..	0.03		
The total rainfall indicated by a Beckley's self-registering rain-gauge (mouth of the gauge about 52 feet above the ground)	0.03		
The average fall of December from 48 years' registers ... ..	0.23		
The greatest fall in 24 hours ... ..	0.02	25th.	
<hr/>			
<i>Days.</i>			
The number of rainy days in the month ... ..	3		
The average number of rainy days in December from 24 years' registers ... ..	1		
<hr/>			
<i>°</i>			
The mean maximum equilibrium temperature of solar radiation during the month ... ..	129.7		
The mean difference of sun and air temperatures ... ..	53.4		
The greatest sun temperature ... ..	137.2	2nd.	
The greatest excess of sun over air temperature ... ..	61.3	2nd.	
The mean temperature of the nocturnal radiation thermometer on woollen cloth ... ..	50.0		
The mean depression of the nocturnal radiation thermometer below the minimum air temperature at 4 feet above the ground ... ..	7.2		
The greatest depression of the nocturnal radiation thermometer below the minimum air temperature ... ..	9.5	15th.	
<hr/>			
<i>Miles.</i>			
The mean movement of the wind per day ... ..	54.3		
The greatest movement of the wind in one day ... ..	93.0	24th.	
The greatest movement of the wind in one hour ... ..	11.0	8th 11 to noon.	
The number of hours with winds from each of the 8 points—			
N. 336, N.E. 91, E. 42, S.E. 9, S. 5, S.W. 6, W. 28, N.W. 115, Calm 112.			

The results of observations at the Alipore Observatory are not rigorously comparable with the registers of past years (at the Park Street Observatory). The barometer is about 8 feet higher at Alipore, and, other things being equal, reads therefore .003 lower. The diurnal range of temperature is also greater at Alipore, and the mean temperature apparently about 2.3° lower; and finally, the thermometer which furnished the record of temperature at the Surveyor-General's Office during 20 years and upwards is found to read 0.6 higher than the Kew standard thermometer, which is the standard of reference at the present Observatory.

C. LITTLE,

METEOROLOGICAL OFFICE, INDIA;  
Calcutta, the 6th January 1890.

*For Meteorological Reporter to the Govt. of India.*

**Results of the Meteorological Observations taken at the Alipore Observatory from  
29th December 1889 to 4th January 1890.**

Month.	Date.	Maximum in sun.	Number of hours of bright sunshine.	Mean pressure barometer at 32° Fahr.	TEMPERATURE.				HYGROMETRY.				WIND.		Rain.	WEATHER.
					Mean.	Maximum.	Range.	Minimum.	Mean wet bulb.	Vapour tension.	Dew point.	Humidity.	Prevailing direction.	Miles recorded.		
1889.		°		Inches.	°	°	°	°	°	Inches.	°	%			Inches.	
Dec.	29th	128.7	9.3	30.000	65.0	76.5	16.4	60.1	61.2	0.450	56.0	66	NNE, N and NNW	85	Nil	Chiefly clear, d.
"	30th	128.5	9.1	29.989	66.3	76.5	18.3	58.2	60.5	.452	56.1	71	N and NNW	77	"	Clear, d.
"	31st	128.4	9.2	.997	64.1	74.7	20.6	51.1	58.9	.452	54.9	74	NE, WNW and NW	58	"	Clear, d, =.
1890.																
Jan.	1st	128.5	8.7	.561	64.3	75.7	22.8	52.9	57.5	.235	51.6	68	SW, WNW and calm	70	"	Clear, d, =.
"	2nd	129.1	9.1	.922	63.9	74.8	21.1	53.7	57.3	.367	51.8	67	W and NNW	75	"	Clear, d.
"	3rd	125.8	8.5	.954	64.0	74.7	20.4	54.3	55.3	.421	54.2	71	N and NNW	46	"	Chiefly clear, d, =.
"	4th	134.7	7.1	.947	65.7	75.4	18.7	57.2	61.9	.504	59.2	50	NNW and calm	-	"	Partially cloudy, d.

The mean pressure of the seven days ... .. 29.036  
 The average pressure of the corresponding period for 24 years, S.-G.'s Office ... 30.031

The total number of hours of bright sunshine ... .. 61.3  
 The maximum possible number of hours of sunshine ... .. 75.2

The mean temperature of the seven days ... .. 65.2  
 The average temperature of the corresponding period for 24 years, S.-G.'s Office ... 67.0  
 The extreme variation of temperature ... .. 28.6  
 The maximum temperature ... .. 76.5

The highest velocity of the wind in one hour up to noon of the 4th January 1890 ... .. 9

The highest pressure of wind on one square foot ... .. Not measurable.

The mean relative humidity ... .. 71  
 The average relative humidity of the corresponding period for 24 years, S.-G.'s Office ... .. 71

The total fall of rain from 29th December 1889 to 4th January 1890 ... .. Nil  
 The average fall of the corresponding period for 24 years, S.-G.'s Office ... .. Nil  
 The total fall from 1st January 1889 to 4th January 1890 ... .. 57.47  
 The average fall of the corresponding period for 24 years, S.-G.'s Office ... .. 63.24

The mean pressure, temperature, &c., are deduced from the traces of the Barograph and Thermograph and from observations made at 6h, 10h, 16h, and 22h.

The maximum and minimum temperatures are obtained from self-registering thermometers. All the thermometers are verified, and the readings have been corrected to a standard constructed and verified at the Kew Observatory. They are exposed under a thatched shed open at the sides, and are suspended four feet above the ground.

The barometer readings are corrected approximately to those of the standard, Newman's No. 86, formerly at the Surveyor-General's Office.

The hygrometric elements are obtained from Tables III, IV, and V of the official tables computed in the Meteorological Office, and based on Regnault's modifications of August's formula.

The directions and the movement of the wind are taken from the trace of a Beckley's anemograph.

The mouth of the rain-gauge is one foot above the ground.

d. dew; = fog.

The total rainfall in the year 1889 ... .. 57.47  
 The average rainfall of the corresponding period for 24 years, S.-G.'s Office ... 63.24

O. LITTLE,

*For Meteorological Reporter to the Govt. of India.*

METEOROLOGICAL OFFICE, GOVT. OF INDIA;  
 Calcutta, the 5th January 1890.

Abstract of the Results of the Barometric and Thermometric Observations taken at 10 a.m. at the Meteorological Office, Chowringhee, in the month of December 1889.

	Inches.	Date.
The mean pressure at 10 a.m. during the month ...	30.063	
The mean temperature at 10 a.m. during the month ...	70.5	
The highest temperature during the month ...	81.4	24th and 26th.
The lowest temperature during the month ...	52.1	14th.
The absolute range of temperature during the month ...	29.3	
The mean daily range of temperature during the month ...	20.0	
The greatest range of temperature in one day during the month ...	23.8	14th.
The mean 10 a.m. humidity during the month ...	67	
The mean 10 a.m. vapour tension during the month ...	501	
The total rainfall of the month ...	0.05	
The greatest fall in 24 hours ...	0.05	26th.
The number of rainy days in the month ...	1	

C. LITTLE,

For Meteorological Reporter to the Govt. of India.

METEOROLOGICAL OFFICE, INDIA,

The 6th January 1890.

Results of the Barometrical and Thermometrical Observations taken at the Meteorological Office, Chowringhee, from 29th December 1889 to 4th January 1890.

MONTH.	Date.	Pressure at 10 A.M. corrected and reduced to 32° Fahr.	TEMPERATURE.						HYGROMETRY.				Rainfall past 24 hours
			Daily mean.	Maximum.	Range.	Minimum.	Dry bulb at 10 A.M.	Wet bulb at 10 A.M.	Vapour tension at 10 A.M.	Dew point at 10 A.M.	Humidity at 10 A.M.		
		Inches.	°	°	°	°	°	°	Inches.	°	%	Inches.	
Dec. 1889 ...	29th ...	30.088	68.6	77.1	17.0	60.1	70.0	61.7	.440	55.4	60	.....	
" " ...	30th ...	.080	66.7	75.9	18.5	57.4	68.1	62.2	.482	57.9	70	.....	
" " ...	31st ...	.063	65.4	75.9	21.0	54.9	68.6	63.2	.509	59.4	72	.....	
Jan. 1890 ...	1st ...	29.951	65.5	75.9	20.9	55.0	68.6	60.7	.427	54.5	61	.....	
" " ...	2nd ...	30.008	65.3	76.1	21.7	54.4	68.0	61.2	.443	55.6	63	.....	
" " ...	3rd ...	.021	67.2	75.5	20.6	54.9	67.8	60.2	.424	54.4	62	.....	
" " ...	4th ...	29.996	67.8	77.7	20.8	56.9	69.8	63.6	.506	59.3	69	.....	

The mean 10 a.m. pressure of the seven days ... 30.029

The mean temperature of the seven days ... 66.3

The extreme variation of temperature ... 23.3

The maximum temperature ... 77.7

The mean 10 a.m. relative humidity of the seven days ... 65

The total fall of rain from 29th December 1889 to 4th January 1890 ... Nil

The daily mean temperatures are the crude means of maximum and minimum temperatures.

C. LITTLE,

For Meteorological Reporter to the Govt. of India.

METEOROLOGICAL OFFICE, INDIA ;

The 6th January 1890.

## MEMORANDUM.

The chief features in connection with the vital statistics of the principal Municipalities in Bengal for the week ending 21st December 1889, are the following:—

1. That births and deaths were registered in these Municipalities at the rates, respectively, of 25.2 and 30.2 per 1,000 of population, as opposed to 26.9 and 31.6 per 1,000 in the preceding week ending 14th December, indicating a retrogression in the registration of both the events.

2. That these events were returned in the highest proportions from the following Municipalities:—

Births.			Deaths.		
		Ratio per mille.			Ratio per mille.
Arrah	...	60.2	Poori	...	90.2
Narainganj	...	41.4	Jessore	...	73.5
Serampore	...	39.3	Hughli and Chinsurah	...	72.2
Hughli and Chinsurah	...	37.7	Serampore	...	70.7
Rampore Beaulah	...	36.8	Narainganj	...	70.4
Ranaghat	...	35.9	Utterpara	...	56.6
Comillah	...	34.7	Purneah	...	48.5
Bhagulpore	...	34.4	Comillah	...	46.2
Durbhanga	...	33.0	Burdwan	...	45.8
Howrah	...	32.1	Ranaghat	...	41.9
Santipore	...	31.5	Bhagulpore	...	34.4
Jessore	...	30.5	Rampore Beaulah	...	34.2
			Monghyr	...	33.4
			Gya	...	32.1
			Chittagong	...	30.5

3. That the mortality from the principal death-causes stood as follows, in comparison with that of the preceding week:—

			Ratio per mille during the weeks ending—	
			21st December 1889.	14th December 1889.
Cholera	...	...	2.3	4.7
Small-pox	...	...	2	3
Fever	...	...	12.8	13.4
Bowel-complaints	...	...	5.2	5.0
Injury	...	...	5	4
Other causes	...	...	9.1	7.9

indicating chiefly that there was a noticeable decrease in the death-rate from cholera with an increase in that from the maladies classed under the head of "Other causes."

4. That while only one town (Poori, mortality 10.5 per 1,000 of population) exhibited fatal results from small-pox, and that to a noticeable extent, and injury shewed no conspicuous fatality anywhere, the under-mentioned Municipalities returned the highest death-rates from cholera, fever, bowel-complaints, and "Other causes":—

Cholera.		Fever.		Bowel-complaints.		Other causes.	
	Ratio per mille.		Ratio per mille.		Ratio per mille.		Ratio per mille.
Narainganj	29.0	Jessore	61.2	Serampore	27.5	Poori	25.2
Serampore	7.8	Purneah	38.1	Hughli and Chin-surah	19.7	Ranaghat	23.9
Dacca	7.8	Poori	37.7	Comillah	15.4	Narainganj	20.7
Hughli and Chin-surah	6.6	Hughli and Chin-surah	31.1	Poori	12.6	Comillah	19.2
Howrah	2.9	Burdwan	30.6			Serampore	15.7
		Rampore Beaulah	26.3			Bhagulpore	15.4
		Darjiling	22.2			Monghyr	14.4
		Chittagong	21.1			Midnapore	12.4
						Gya	12.3
						Hughli and Chin-surah	11.6
						Durbhanga	10.2
						Chupra	10.1

5. That the mortality according to Sex, Class and Age stood as shown below:—

According to Sex.		According to Class.		According to Age.	
	Ratio per mille.		Ratio per mille.		Ratio per mille.
Males	32.7	Christians	7.5	Under 1 year	204.9
Females	27.5	Hindus	30.9	1 and under 5 years	82.6
Ratio of male deaths to every 100 female deaths	128	Mahomedans	29.1	5 " 10 "	17.9
				10 " 15 "	11.9
				15 " 20 "	11.6
				20 " 30 "	17.7
				30 " 40 "	22.3
				40 " 50 "	25.7
				50 " 60 "	40.3
				60 years and upwards	87.8

The 6th January 1890.

W. H. GREGG, Dip. Publ. Health, Camb.,  
Sanitary Commissioner for Bengal.

Statement showing the Results of the Registration of Births and Deaths in the principal Municipalities in Bengal during the week ending 21st December 1889.

1	2	3	4	5	6	7	8	9	10	11	12						
DISTRICTS.	NAMES OF MUNICIPALITIES.	POPULATION.			BIRTHS.			MORTALITY ACCORDING TO—									
		NUMBER OF—			RATIO PER 1,000 OF POPULATION PER ANNUM.			DISEASES.									
		Males.	Females.	Total.	Males.	Females.	Total.	DEATHS FROM—									
								Cholera.	Small-pox.	Fever.	Gastro-enteritis.	Injury.	Other diseases.	All causes.	Cholera.	Small-pox.	Fever.
Ratio of male deaths to every 100 female deaths.																	
Ratio of male births to every 100 female births.																	
Ratio of deaths per 1,000 of population per annum.																	
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DISTRICTS.		NAMES OF MUNICIPALITIES.		MORTALITY ACCORDING TO—										Age.										Ratio per 1,000 of Population per Annum.									
				Class.					Deaths					Age.										Ratio per 1,000 of Population per Annum.									
				Deaths among—					Ratio per 1,000 of Popula- tion per annum.					Age.										Ratio per 1,000 of Population per Annum.									
				Christians.	Hindus.	Mahomedans.	Buddhists.	Other classes.	Christians.	Hindus.	Mahomedans.	Buddhists.	Other classes.	Under 1 year.	1 and under 5 years.	5 and under 10 years.	10 and under 15 years.	15 and under 20 years.	20 and under 30 years.	30 and under 40 years.	40 and under 50 years.	50 and under 60 years.	60 years and up.	Under 1 year.	1 and under 5 years.	5 and under 10 years.	10 and under 15 years.	15 and under 20 years.	20 and under 30 years.	30 and under 40 years.	40 and under 50 years.	50 and under 60 years.	60 years and up.
Burdwan	Burdwan	12	...	...	...	...	481	480	...	...	1	...	...	...	...	...	...	...	...	...	...	783	1153	609	...	166	197	203	703	313	313	60 years and up.	
Midnapore	Midnapore	10	...	...	...	...	301	72	...	...	1	...	...	...	...	...	...	...	...	...	...	1409	...	...	171	...	91	...	279	766	289	50 and under 60 years.	
Bankura	Bankura	24	...	...	...	...	633	443	...	...	...	...	...	...	...	...	...	...	...	...	...	2338	937	150	...	...	754	247	748	800	1003	60 years and up.	
Baranagar	Baranagar	23	...	...	...	...	57	638	...	...	...	...	...	...	...	...	...	...	...	...	...	2003	1610	207	...	...	193	833	613	813	3364	60 years and up.	
Baranagar	Baranagar	5	...	...	...	...	673	208	...	...	...	...	...	...	...	...	...	...	...	...	...	2230	2470	1116	...	...	...	260	...	...	...	...	60 years and up.
Baranagar	Baranagar	40	...	...	...	...	103	373	...	...	...	...	...	...	...	...	...	...	...	...	...	1764	375	103	...	...	278	103	193	193	1034	60 years and up.	
Baranagar	Baranagar	6	...	...	...	...	333	307	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	60 years and up.
Baranagar	Baranagar	3	...	...	...	...	160	377	...	...	...	...	...	...	...	...	...	...	...	...	...	2643	...	...	...	...	...	131	...	...	...	...	60 years and up.
Baranagar	Baranagar	0	...	...	...	...	470	301	...	...	...	...	...	...	...	...	...	...	...	...	...	2634	...	...	...	...	...	417	1334	...	...	...	60 years and up.
Baranagar	Baranagar	3	...	...	...	...	80	308	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	60 years and up.
Baranagar	Baranagar	4	...	...	...	...	330	303	...	...	...	...	...	...	...	...	...	...	...	...	...	10731	...	...	...	...	...	...	...	...	...	...	60 years and up.
Baranagar	Baranagar	7	...	...	...	...	307	318	...	...	...	...	...	...	...	...	...	...	...	...	...	2013	207	...	...	...	...	...	...	...	...	...	60 years and up.
Baranagar	Baranagar	3	...	...	...	...	340	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	60 years and up.
Baranagar	Baranagar	20	...	...	...	...	301	173	...	...	...	...	...	...	...	...	...	...	...	...	...	1006	403	...	...	...	...	...	...	...	...	...	60 years and up.
Baranagar	Baranagar	10	...	...	...	...	303	301	...	...	...	...	...	...	...	...	...	...	...	...	...	1004	406	...	...	...	...	...	...	...	...	...	60 years and up.
Baranagar	Baranagar	1	...	...	...	...	80	308	...	...	...	...	...	...	...	...	...	...	...	...	...	2003	204	...	...	...	...	...	...	...	...	...	60 years and up.
Baranagar	Baranagar	4	...	...	...	...	330	303	...	...	...	...	...	...	...	...	...	...	...	...	...	7008	203	...	...	...	...	...	...	...	...	...	60 years and up.
Baranagar	Baranagar	23	...	...	...	...	100	100	...	...	...	...	...	...	...	...	...	...	...	...	...	784	107	...	...	...	...	...	...	...	...	...	60 years and up.
Baranagar	Baranagar	41	...	...	...	...	303	196	...	...	...	...	...	...	...	...	...	...	...	...	...	2334	573	...	...	...	...	...	...	...	...	...	60 years and up.
Baranagar	Baranagar	5	...	...	...	...	84	310	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	60 years and up.
Baranagar	Baranagar	15	...	...	...	...	303	303	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	60 years and up.
Baranagar	Baranagar	22	...	...	...	...	303	307	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	60 years and up.
Baranagar	Baranagar	16	...	...	...	...	100	303	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	60 years and up.
Baranagar	Baranagar	20	...	...	...	...	340	303	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	60 years and up.
Baranagar	Baranagar	20	...	...	...	...	337	331	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	60 years and up.
Baranagar	Baranagar	3	...	...	...	...	43	331	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	60 years and up.
TOTAL	TOTAL	1	440	103	...	...	73	307	331	...	100	40	35	22	15	72	75	62	60	111	2049	330	179	118	116	177	233	237	403	676	...	60 years and up.	

OFFICE OF SANITARY COMMISSIONER FOR BENGAL,

7th 6th January 1890.

W. H. GREGG, Dip. Publ. Health, Camb.,

Sanitary Commissioner for Bengal.

## CIRCULAR AND EASTERN CANALS.

*Approximate Return of Traffic for the week ending Saturday, the 4th January 1890,  
as compared with the corresponding week of the previous year.*

NATURE OF CARGO.	WEEK ENDING SATURDAY, THE 4TH JANUARY 1890.			WEEK ENDING SATURDAY, THE 5TH JANUARY 1889.		
	Number of boats.	Weight of cargo.	Tollage.	Number of boats.	Weight of cargo.	Tollage.
	No.	Mds.	Rs.	No.	Mds.	Rs.
Rice and paddy ...	2,000	2,70,433	4,613	1,670	2,91,865	5,181
Jute ...	208	2,40,550	2,914	143	74,025	1,335
Firewood ...	102	51,795	763	151	79,020	1,173
Other articles ...	977	2,32,255	3,678	1,353	2,71,610	4,004
Total ...	3,437	8,04,038	21,963	3,317	7,17,120	11,903

## Weekly Return of Traffic Receipts on Indian Railways.

## EASTERN BENGAL STATE RAILWAY.

(INCLUDING N. B., DACCA, K. AND D., AND ASSAM-BEHAR SECTIONS.)

*Approximate Return of Traffic for week ended 21st December 1889, on 747 miles open.*

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated), including Steam-boats.	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchan- dise.	Total.
		Rs. A. P.	Mds. S.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the week ...	137,098	73,000 0 0	6,25,380 0	1,74,300 0 0	14,730 0 0	2,62,030 0 0	21,638	35,300	56,938
Or per mile of railway ...	183	99 0 0	837 0	233 0 0	73 0 0	335 0 0	29	47	76
For previous 24 weeks of half-year ...	*3,455,345	15,82,801 0 0	*1,53,72,426 0	38,72,874 0 0	4,17,867 0 0	*38,72,844 0 0	251,088	716,791	1,367,879
Total for 25 weeks ...	3,592,443	16,56,463 0 0	1,59,98,756 0	40,67,174 0 0	4,32,597 0 0	41,33,934 0 0	262,726	746,091	1,378,817
COMPARISON.									
Total for corresponding week of previous year ...	121,027	63,751 0 0	6,05,903 0	1,74,741 0 0	17,245 0 0	2,55,740 0 0	21,374	33,678	55,052
Per mile of railway correspond- ing period of previous year ...	160	85 0 0	805 0	230 0 0	74 0 0	330 0 0	29	45	74
Total to corresponding date of previous year ...	2,404,474	15,44,237 0 0	1,53,72,275 0	38,63,980 0 0	4,30,977 0 0	39,97,214 0 0	219,292	707,547	1,356,839

\* Audited up to week ending 9th November 1889.

† Excluding steamer earnings.

## FINANCIAL YEAR.

*Approximate Statement of gross receipts of the Eastern Bengal State Railway.*

RECEIPTS FOR WEEK ENDING 22ND DECEMBER 1889.			RECEIPTS FOR WEEK ENDING 21ST DECEMBER 1889.			TOTAL RECEIPTS FROM 1ST APRIL 1889 TO 22ND DECEMBER 1889.			TOTAL RECEIPTS FROM 1ST APRIL 1889 TO 21ST DECEMBER 1889.			Total increase in 1889-90.	Total decrease in 1889-90.
Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Total receipts.	Per mile worked per week.	Mean mileage worked.	Total receipts.	Per mile worked per week.		
	Rs.	Rs.		Rs.	Rs.		Rs.	Rs.		Rs.	Rs.	Rs.	Rs.
673	2,55,740	380	747	2,61,090	349	673	78,62,646	237	722	*22,71,375	303	3,86,729	...

\* Audited up to week ending 9th November 1889.

## BENGAL CENTRAL RAILWAY.

Approximate Return of Traffic for week ended 21st December 1889, on 125 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated).	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. c.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the week ...	25,000	11,100 0 0	30,470 0	2,600 0 0	110 0 0	13,870 0 0	2,000	2,000	4,000
Or per mile of railway ...	200	89 0 0	244 0	21 0 0	1 0 0	111 0 0	...	...	...
For previous 52 weeks of half-year ...	1,081,817	2,32,073 0 0	1,13,02,092 0	1,73,151 0 0	5,369 0 0	1,73,60,135 0 0	80,087	54,572	1,34,659
Total for 52 weeks ...	689,577	2,41,783 0 0	13,02,562 0	1,74,731 0 0	5,572 0 0	1,74,403 0 0	80,693	55,438	1,36,131
COMPARISON.									
Total for corresponding week of previous year ...	23,974	2,000 0 0	42,306 0	2,570 0 0	63 0 0	12,530 0 0	2,000	2,000	4,000
Per mile of railway corresponding period of previous year ...	192	78 0 0	339 0	21 0 0	...	90 0 0	...	...	...
Total to corresponding date of previous year ...	668,208	2,22,532 0 0	14,43,211 0	1,40,004 0 0	1,908 0 0	1,40,315 0 0	80,316	51,751	1,32,067

\* Audited up to week ending 9th November 1889.

## FINANCIAL YEAR.

Approximate Statement of gross receipts of the Bengal Central Railway.

RECEIPTS FOR WEEK ENDING 22ND DECEMBER 1889.			RECEIPTS FOR WEEK ENDING 21ST DECEMBER 1889.			TOTAL RECEIPTS FROM 1ST APRIL 1889 TO 22ND DECEMBER 1889.			TOTAL RECEIPTS FROM 1ST APRIL 1889 TO 21ST DECEMBER 1889.			Total increase in 1889-90.	Total decrease in 1889-90.
Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Total receipts.	Per mile worked.	Mean mileage worked.	Total receipts.	Per mile worked.	Rs.	Rs.
125	Rs. 12,800	Rs. 80	125	Rs. 12,570	Rs. 111	123	Rs. 5,36,907	Rs. 111	126	Rs. 5,03,863	Rs. 117	Rs. 24,000	Rs. ....

\* Audited up to week ending 9th November 1889.

## DACCA STATE RAILWAY.

Approximate Return of Traffic for week ended 21st December 1889, on 86 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated).	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. c.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the week ...	14,100	5,570 0 0	47,620 0	4,410 0 0	200 0 0	10,540 0 0	2,547	2,281	4,828
Or per mile of railway ...	165	65 0 0	554 0	51 0 0	4 0 0	123 0 0	...	...	...
For previous 52 weeks of half-year ...	771,229	1,21,022 0 0	9,92,970 0	58,917 0 0	5,436 0 0	1,22,384 0 0	60,123	30,107	90,230
Total for 52 weeks ...	382,683	1,25,023 0 0	7,39,090 0	65,447 0 0	5,796 0 0	1,36,970 0 0	62,670	22,618	85,288
COMPARISON.									
Total for corresponding week of previous year ...	14,940	4,996 0 0	15,861 0	1,764 0 0	180 0 0	8,940 0 0	2,510	694	3,204
Per mile of railway corresponding period of previous year ...	173	58 0 0	184 0	21 0 0	2 0 0	91 0 0	...	...	...
Total to corresponding date of previous year ...	388,125	1,12,792 0 0	8,77,613 0	50,781 0 0	4,733 0 0	1,40,300 0 0	62,764	16,330	79,094

\* Audited up to week ending 14th November 1889.

## FINANCIAL YEAR.

Approximate Statement of gross receipts of the Dacca State Railway.

RECEIPTS FOR WEEK ENDING 22ND DECEMBER 1889.			RECEIPTS FOR WEEK ENDING 21ST DECEMBER 1889.			TOTAL RECEIPTS FROM 1ST APRIL 1889 TO 22ND DECEMBER 1889.			TOTAL RECEIPTS FROM 1ST APRIL 1889 TO 21ST DECEMBER 1889.			Total increase in 1889-90.	Total decrease in 1889-90.
Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Total receipts.	Per mile worked.	Mean mileage worked.	Total receipts.	Per mile worked.	Rs.	Rs.
86	Rs. 4,980	Rs. 58	86	Rs. 10,540	Rs. 123	86	Rs. 1,13,247	Rs. 65	86	Rs. 1,21,045	Rs. 63	Rs. 67,700	Rs. ....

\* Audited up to week ending 9th November 1889.

## NALHATI STATE RAILWAY.

Approximate Return of Traffic for the week ending 21st December 1889, on 27½ miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated).	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. S.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the week	3,048	1,065 0 0	30,308 0	996 0 0	18 0 0	2,079 0 0	519	254	763
Or per mile of railway	112	39 0 0	741 0	36 0 0	1 0 0	76 0 0	...	...	...
For previous 23 weeks of half-year	76,161	27,375 0 0	2,16,058 0	13,853 0 0	1,547 0 0	22,875 0 0	12,146	9,892	22,038
Total for 24 weeks	79,209	28,440 0 0	2,36,298 0	14,849 0 0	1,565 0 0	24,440 0 0	12,665	10,146	22,811
COMPARISON.									
Total for corresponding week of previous year	3,770	1,106 0 0	15,996 0	542 0 0	6 0 0	1,654 0 0	809	673	1,482
Per mile of railway corresponding week of previous year	139	41 0 0	601 0	21 0 0	...	72 0 0	...	...	...
Total to corresponding date of previous year	78,709	27,686 0 0	2,91,339 0	17,145 0 0	3,085 0 0	24,317 0 0	12,725	10,970	23,695

## FINANCIAL YEAR.

Approximate Statement of gross receipts of the Nalhati State Railway.

RECEIPTS FOR WEEK ENDING 21ST DECEMBER 1889.			RECEIPTS FOR WEEK ENDING 21ST DECEMBER 1888.			TOTAL RECEIPTS FROM 1ST APRIL 1888 TO 21ST DECEMBER 1888.			TOTAL RECEIPTS FROM 1ST APRIL 1889 TO 21ST DECEMBER 1889.			Total increase in 1889-88.	Total decrease in 1889-88.
Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Total receipts.	Per mile worked per week.	Mean mileage worked.	Total receipts.	Per mile worked per week.		
	Rs.	Rs.		Rs.	Rs.		Rs.	Rs.		Rs.	Rs.	Rs.	Rs.
27½	1,064	72	27½	1,079	70	27½	72,745	73	27½	70,773	70	...	1,972

## TIRHOOT STATE RAILWAY.

Approximate Return of Traffic for the week ending 21st December 1889, on 273 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated).	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. S.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the week	39,985	17,128 0 0	1,90,000 0	20,978 0 0	4,996 0 0	43,124 0 0	6,373	2,929	11,092
Or per mile of railway	146	63 0 0	699 0	77 0 0	3 0 0	143 0 0	...	...	...
For previous 23 weeks of half-year	902,986	3,82,030 0 0	40,58,087 0	4,07,534 0 0	50,631 0 0	5,50,195 0 0	127,074	129,898	256,972
Total for 24 weeks	1,002,971	3,99,158 0 0	42,48,073 0	4,28,512 0 0	50,627 0 0	5,79,180 0 0	133,447	132,811	266,258
COMPARISON.									
Total for corresponding week of previous year	24,121	10,440 0 0	1,20,916 0	14,972 0 0	3,004 0 0	35,022 0 0	6,389	5,391	11,780
Per mile of railway corresponding week of previous year	129	60 0 0	480 0	55 0 0	1 0 0	110 0 0	...	...	...
Total to corresponding date of previous year	968,786	3,20,809 0 0	32,69,767 0	2,94,075 0 0	75,662 0 0	3,69,546 0 0	129,783	127,760	257,543

• Steam-boat earnings excluded in calculating "Total earnings per mile of Railway."

## FINANCIAL YEAR.

Approximate Statement of gross receipts of the Tirhoot State Railway.

RECEIPTS FOR WEEK ENDING 21ST DECEMBER 1889.			RECEIPTS FOR WEEK ENDING 21ST DECEMBER 1888.			TOTAL RECEIPTS FROM 1ST APRIL 1888 TO 21ST DECEMBER 1888.			TOTAL RECEIPTS FROM 1ST APRIL 1889 TO 21ST DECEMBER 1889.			Total increase in 1889-88.	Total decrease in 1889-88.
Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Total receipts.	Per mile worked per week.	Mean mileage worked.	Total receipts.	Per mile worked per week.		
	Rs.	Rs.		Rs.	Rs.		Rs.	Rs.		Rs.	Rs.	Rs.	Rs.
273	35,023	128	273	46,194	169	263.27	12,04,145	124	273	14,17,078	140	2,13,533	...

DARJEELING-HIMALAYAN RAILWAY COMPANY, LIMITED.						Rs.
Approximate earnings for week ending 14th December 1889	...	...	...	...	...	8,196
Corresponding week last year	...	...	...	...	...	12,201
Decrease	...	...	...	...	...	4,005
Receipts from 1st July to 14th December 1889	...	...	...	...	...	2,62,061
From 1st July to 15th December 1888	...	...	...	...	...	2,85,982
Decrease	...	...	...	...	...	23,881
Compared with 1887, there is an increase of Rs. 23,142 for the corresponding period.						
Miles open week ending 14th December 1889	...	...	...	...	...	Miles. 51
Corresponding week last year	...	...	...	...	...	51
Receipts per mile open week ending 14th December 1889	...	...	...	...	...	Rs. A. P. 160 11 0
Corresponding week last year	...	...	...	...	...	241 0 0
Decrease	...	...	...	...	...	80 6 0





# SUPPLEMENT TO The Calcutta Gazette.

WEDNESDAY, JANUARY 15, 1890.

## OFFICIAL PAPERS.

*Non-Subscribers to the GAZETTE may receive the SUPPLEMENT separately on payment of Six Rupees per annum if delivered in Calcutta, or Twelve Rupees if sent by Post.*

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### ROUTE TO BE TAKEN BY EMIGRANTS DESPATCHED DIRECT FROM THE RECRUITING DISTRICTS TO DHUBRI.

#### GENERAL DEPARTMENT—INLAND EMIGRATION.

Calcutta, the 11th January, 1890.

#### RESOLUTION.

#### READ—

A letter No. 1641, dated the 19th December 1889, from the Superintendent of Emigration, Calcutta, and previous correspondence regarding the medical inspection of coolie emigrants to Assam at Naihati.

By the notification, dated the 16th September, 1889, which was published at page 782 of Part I of the *Calcutta Gazette* of the 18th idem, the Lieutenant-Governor, in exercise of the power vested in him by section 3 of Act I of 1889, declared by an amendment of Rule 6 of the rules under that Act that the Hooghly-Naihati route should be adopted for emigrants to Assam. This order was intended to apply only to the emigrants taken from the recruiting districts to Dhubri and crossing the Hooghly above Calcutta, who, in fact, constitute the majority, the object being to exclude the alternative crossings *via* Mugra and Kanchrapara. It was not intended to interfere in any way with emigration *via* Calcutta and Goalundo. As the rule has been differently interpreted, this explanation is published for general information.

By order of the Lieutenant-Governor of Bengal,

P. NOLAN,

Secretary to the Govt. of Bengal.

## WORKS OF PUBLIC UTILITY CONSTRUCTED IN 1888.

## GOVERNMENT OF BENGAL—PUBLIC WORKS DEPARTMENT.

## Miscellaneous Public Improvements.

No. 2739—1M.P.I., dated Calcutta, the 30th December 1889.

## HEAD—

Statement of works of public utility constructed by private individuals in the several districts of Bengal during the year 1888.

## Read again—

Statement of similar works constructed during 1887, and the Resolution thereon.

REMARKS.—The following works of public utility were constructed by private individuals during 1888 :—

		Number of works.	Cost.					Number of works.	Cost.		
			Rs.	A.	P.				Rs.	A.	P.
Public buildings	...	9	58,050	0	0	Ghâts	...	4	4,550	0	0
Roads	...	4	1,450	0	0	Tanks	...	282	2,09,193	14	6
Bridges	...	11	12,658	10	6	Wells	...	106	30,386	0	0
Embankments	or					Miscellaneous	...	39	1,881	0	0
bunds	...	8	2,578	0	0	Petty works	...	...	74,749	8	0

2. The following statement shows the number of works costing more than Rs. 200 each, which were constructed during the past year, and the amounts contributed, including donations for petty works, as compared with the figures for the two previous years :—

Year.	Number of works costing between Rs. 200 and Rs. 500 each.	Number of works costing more than Rs. 500 each.	Total number of works costing Rs. 200 and upwards each.	Total expenditure on works costing Rs. 200 and upwards each.	Add cost of petty works under Rs. 200.	Total contribution.
1886	261	123	384	Rs. A. P. 2,63,823 10 0	Rs. A. P. 60,489 9 6	Rs. A. P. 3,24,312 9 6
1887	313	98	411	Rs. A. P. 2,48,000 3 3	Rs. A. P. 50,002 3 0	Rs. A. P. 2,98,002 6 3
1888	331	133	464	Rs. A. P. 2,70,492 9 6	Rs. A. P. 74,749 8 0	Rs. A. P. 3,45,241 7 6

3. The subjoined table exhibits the number of works costing Rs. 200 and over each, constructed in the several districts, and the amounts contributed for their construction :—

Name of district.	Number of works.	Total cost.			Name of district.	Number of works.	Total cost.		
		Rs.	A.	P.			Rs.	A.	P.
Burdwan	...	6	7,700	0 0	Noakhally	...	1	1,000	0 0
Bankoora	...	4	3,600	0 0	Chittagong	...	3	2,206	0 0
Beerbhoom	...	...	...	...	Chittagong Hill	...	...	...	...
Midnapore	...	9	3,523	0 0	Tracts	...	...	...	...
Hooghly	...	3	4,400	0 0	Patna	...	3	25,200	0 0
Howrah	...	3	3,200	0 0	Gya	...	14	4,038	0 0
24-Pergunnahs	...	9	49,513	10 6	Shahabad	...	16	4,045	0 0
Khoolna	...	20	7,175	0 0	Durbhunga	...	38	34,135	0 0
Nudda	...	13	3,830	0 0	Mozufferpore	...	18	12,551	0 0
Jessore	...	24	11,675	0 0	Saron	...	13	4,900	0 0
Moorsheadabad	...	3	8,824	14 6	Chumpanna	...	25	6,775	0 0
Dinagore	...	13	5,400	0 0	Monghyr	...	35	9,400	0 0
Rajshahye	...	18	14,291	0 0	Bhagulpore	...	21	13,025	0 0
Rangpore	...	10	5,525	0 0	Purneah	...	5	2,275	0 0
Bagra	...	8	7,235	0 0	Maldah	...	3	7,200	0 0
Pubna	...	6	13,950	0 0	Sonthal Pergunnahs	...	40	2,760	0 0
Darjeeling	...	...	...	...	Cuttack	...	1	810	0 0
Julpigoree	...	7	2,275	0 0	Balasore	...	11	5,145	0 0
Dacca	...	2	530	0 0	Pooree	...	3	1,420	0 0
Farrakpore	...	13	2,700	0 0	Hazaribagh	...	1	200	0 0
Backergunge	...	5	2,100	0 0	Lohardugga	...	...	...	...
Mymensingh	...	21	13,818	0 0	Manbhoom	...	3	1,200	0 0
Tipperah	...	8	2,050	0 0	Singbhoom	...	4	910	0 0

4. Taking them according to the classification adopted in paragraph 1, the following works are specially noted :—

*Public buildings.*—Of the sum of Rs. 58,050 contributed under this head, the Marwari community of Ranigunj contributed Rs. 4,500 for the construction of a serai for travellers in Mahalla Hatipore, in the town of Ranigunj;

Dr. Kalipodo Gupta, F.R.C.S., contributed Rs. 2,750 for a charitable dispensary, and Baboo Ram Gopal Rakhit Rs. 40,000 for a similar work at Khutura; Rai Bahadoor Boodhoosingh Dodhooia and Rai Bahadoor Bishen Chand Dodhooia gave Rs. 6,000 for an alms-house at Azimgunge; and Baboo Sarat Chandra Rai Chowdhury contributed Rs. 2,500 for a school building at Singhya.

*Roads.*—The contributions for roads were very meagre, the total amounting only to Rs. 1,450.

*Bridges.*—The sum of Rs. 12,653-10-6 contributed for bridges includes Rs. 1,803-10-6 paid by Baboo Kali Nath Banerjee for a masonry bridge over the Dhulchita khail; Rs. 2,500 contributed by Alladi Bibi for a bridge on the river Harihar; Rs. 1,000 given by Baboo Bhichhuk Nath Pande for a masonry bridge at Baigam; and Rs. 4,000 by Baboo Sarat Chandra Rai Chowdhury for a masonry bridge at Mobarakpore.

*Embankments or Bunds.*—Rs. 2,578 were paid under this head: there were no contributions of large amount.

*Ghâts.*—Of the sum of Rs. 4,550 contributed, Baboo Kristo Chunder Banerjee gave Rs. 1,300, and Dr. Kalipodo Gupta, F.R.C.S., Rs. 2,250.

*Tanks.*—Rs. 2,09,193-14-6 were spent in constructing and re-excavating 282 tanks. Baboo Ram Chand Shai of Khudkuri, thana Khandghose, contributed Rs. 1,250; Giridhari Das Mohanta Rs. 1,600; Baboo Dino Nath Ray Rs. 1,200; Baboo Kenaram Pall of Dhitpore Rs. 1,000; Madhab Chandra Giri Mohanta of Tarakesur Rs. 3,000; Baboo Rajchander Kolay of Bar-bamoongar, zemindar of the village in Ampta, Rs. 2,000; Baboo Premchand Singh of Mooraribar in Bagnan Rs. 1,000; the Nawab Bahadoor of Moorshe-dabad Rs. 2,624-14-6; Kumar Jogendro Nath Roy Rs. 3,000; Baboo Rokha Kar Moitra Rs. 1,000; Baboo Madhub Mondal Rs. 1,000; Mr. Lang for Robert Watson & Co. Rs. 2,000; Baboo Pamos Pramanick Rs. 1,000; Baboo Niwamat Patwari Rs. 1,200; Baboo Govinda Chandra Shaha Rs. 1,200; Baboo Boraula Pramanik Rs. 1,000; Baboo Radha Mohun Chowdhuree Rs. 1,000; Baboo Raj Mohun Shaha Rs. 2,500; Baboo Lukhi Kanta Pramanik Rs. 10,000; Baboo Mohur Molla Rs. 1,000; Maharajah Sir Jotendra Mohan Tagore, K.C.S.I., Rs. 2,000; Syjuddin Ahmed Rs. 2,000; Baboo Rajoni Kantha Ghatak Rs. 1,000; Bisvasvari Devi Chowdhurani Rs. 4,500; Baboo Petamber Shaha Rs. 1,000; Baboo Susti Charan Mazumdar Rs. 1,200; Moulvie Ali Ahmad for Bibi Sogra, widow of Moulvie Abdul Aziz, Rs. 25,000; Mohunt Narsing Doss Rs. 2,000; Chandi Baboo Rs. 2,000; Shaik Isuf Rs. 1,000; Baboo Digamber Sing Rs. 1,000; Baboo Jalim Monder Rs. 1,000; Baboo Panup Lal Sahu Rs. 1,000; Baboo Deonath Jha Rs. 1,000; Baboo Dooga Chowdhury Rs. 1,000; Baboo Mongal Gowala Rs. 1,500; Baboo Bacha Thakur Rs. 1,800; Baboo Gunga Pershad Rs. 1,000; Baboo Ranga Jha Rs. 1,035; Dodhrain Ojhain Rs. 1,000; Baboo Jungli Jha Rs. 1,500; Baboo Kanaia Pandey Rs. 2,500; Baboo Sohar Barar 1,001; Baboo Ram Charan Raut Rs. 1,000; Baboo Mahadeb Raut Rs. 1,000; Baboo Nathu Sahu Teli Rs. 1,000; Baboo Imrit Shah Rs. 2,000; Baboo Fajdar Sing Rs. 1,000; Baboo Krishna Dhan Das Rs. 1,000; Mussamat Kapurbati Kussari Rs. 1,300; and Baboo Apatti Dibba of Kapasirta, pergunnah Mongla in Kanthi, Rs. 1,070.

*Wells.*—Under this head Rs. 30,336 were contributed, of which Baboo Gobinda Chandra Roy gave Rs. 1,000; Shaikh Faiz Ally Rs. 1,000; and Baboo Nandu Lal Rs. 2,000.

*Miscellaneous.*—The sum of Rs. 1,681 shown against this head is composed of small amounts.

*RESOLUTION.*—The Lieutenant-Governor notices with pleasure that the contributions for works of public utility during the year under review compare favourably with those of the previous two years. His Honour hopes to see further progress in the same direction, and he trusts that those who are willing to contribute money for this purpose will exercise a careful judgment in selecting such works as are calculated to enhance the material prosperity of the community. The Lieutenant-Governor desires to thank those who have contributed in the past year for their public spirit and liberality.

Letters of acknowledgment will be forwarded by the Government to those who have constructed important works. Those who have constructed works

costing Rs. 500 and under will, as usual, receive an acknowledgment from the Commissioner or the Magistrate of the Division.

ORDER.—Ordered that a copy of this Resolution, and of the statement, be forwarded to the Board of Revenue, Lower Provinces, and to all Commissioners of Divisions; to the Commissioner of Chota Nagpore, and to all Superintending Engineers of Public Works Circles in Bengal, for information.

Ordered also, that a copy of this Resolution, and of the statement, be forwarded to the Revenue and Judicial Departments of this Government for information.

Ordered also, that this Resolution and the statement be published in the Supplement to the *Calcutta Gazette* for general information.

By order of the Lieutenant-Governor of Bengal,

E. J. MARTIN,

Secretary to the Government of Bengal,

P. W. Dept.

Division.	District.	Name of individual by whom constructed.	Description of work.	Place where constructed.	Cost.	Total of districts.	Grand Total of Division.
					Rs. A. P.	Rs. A. P.	Rs. A. P.
Burdwan	Burdwan	Baboo Biva Das, Muhuri of Kona, thana Cutwa.	Repairs to a road	Kona, thana Cutwa	400 0 0		
		Baboo Ram Chand Khan of Khudkuri, thana Khudkuri.	Re-excavation of a tank	Khudkuri, thana Khudkuri.	1,350 0 0		
		Jayraditta Sheikh, of Chudkighi, thana Jamalpur.	Excavation of a tank	Chudkighi, thana Jamalpur.	900 0 0		
		Baboo Nones (more) Mandal, of Palashan, thana Badmanta.	Ditto	Palashan, thana Badmanta	350 0 0		
		Baboo Gopal Chandra Ghose, of Beerpoor, thana Burdwan.	Ditto	Beerpoor, thana Burdwan	450 0 0		
		Marwari community of Manigunj, thana Manigunj.	Construction of a serai for travellers.	Mahula Hatipore, in the town of Manigunj, thana Manigunj.	4,500 0 0		
		Works costing less than Rs. 200 each			140 0 0		
		Glrichari Das Mohanta	A tank	On the road between India and Katulpur police-stations	1,400 0 0	7,640 0 0	
		Baboo Gora Chand Banerjee	Do.	Sonagarkhi	950 0 0		
		.. Jine Nath Ray	Do.	Teleshar	1,200 0 0		
Banspurah	Banspurah	.. Gunga Narain Duari	Do.	Kusantip	300 0 0	8,990 0 0	
		Nil					
		Sreemati Syama Sundry Dehya, of Shomchandpore.	A well	Shanchandpore, outpost Birsa	200 0 0		
		Baboo Konaram Pall, of Dhitpore	Re-excavation of a tank	Benapura, outpost Benapura	1,000 0 0		
		Baboo Dwerka Nath Chowdhury, of Aram.	Ditto	Aram, outpost Benapura	400 0 0		
		Baboo Bodya Nath Jana, of Katania bazar.	Ditto	Dhondighi, police-station	900 0 0		
		Baboo Lekhan Pandah, of Bhiribara.	A tank	Akhamapore, police-station	200 0 0		
		Baboo Umesh Chandra Roy, Doctor of Dekhira.	Re-excavation of a tank	Basalia, in the municipality of Chendrasama.	800 0 0		
		Sheik Mehar, of Misara	A tank	Misara, police-station Pansakura	200 0 0		
		Baboo Madhu Sudan Panigrahi, of Panskura.	Do.	Panskura, police-station	300 0 0		
Midnapore	Midnapore	Baboo Juddhishter Saw of Bhoturia	Do.	Bhoturiah, police-station Nandigram.	225 0 0		
		Works costing less than Rs. 200 each			600 0 0	4,135 0 0	
		Baboo Peary Lal Chatterjee, of Talbana, in Dhoulakhalu thana.	A tank	Talbana	700 0 0		
		Madhub Chandra Giri, Mohanta of Tarakessur.	Do.	Tarakessur	3,000 0 0		
		Baboo Gopal Chandra Bena, of Bansberia.	Constructing a masonry ghat on the river Beahly.	Bansberia	700 0 0	4,400 0 0	
		Ranee Durga Sundari of Andool	A thatched school-house (a).	Near Rajbati in Andool, Bankura.	200 0 0		
		Baboo Rajchander Kolay, of Barbamougar, zemindar of the village in Ampta.	A tank	Barbamougar in Ampta	2,000 0 0		
		Baboo Prechand Singh, of Mournabar in Bagman.	Do.	On the side of the public road in village Mooratbar.	1,000 0 0	8,200 0 0	
Howrah	Howrah						
24. Purnanaha	Purnanaha	Kangrah Mundal	Tank	Mullikapore	350 0 0		
		Ditto	Masonry masjid	Ditto	400 0 0		
		Kristo Chunder Banerjee	Masonry ghat on the river side.	Halishahar, Kalikatalla bazar	1,300 0 0		
		Dr. Kalipodo Gupta, Z.E.C.S.	Ditto ditto		2,250 0 0		
		Ditto ditto	Charitable dispensary.	Halishahar, Boonaghat	2,750 0 0		
		Ram Gopal Rakshit	Ditto ditto	Khotora	40,000 0 0		
		Kali Nath Banerjee	Masonry bridge over the Dhulchha khali.	Mundirghata, Dhulchha	1,903 10 6		
		Mohendra Nath Patra of Belpukur, sub-station Kulp.	New tank and re-excavation of an old tank	Sangore meliah ground	600 0 0		
		Works costing less than Rs. 200 each			125 0 0	49,038 10 6	
Khowda	Khowda	Kasem Mundal	Tank	Judpur	800 0 0		
		Banda Kanta Sreer	Do.	Kumra	200 0 0		
		Mathura Nath Chatterjee	Do.	Narapur	250 0 0		
		Dusambar Batta	Do.	Chandpur	300 0 0		

(a) This is a free school. The sum of Rs. 325, including the pay of teachers, &c., is the monthly expenditure which is also paid by the Bank.



Division.	District.	Name of individual by whom constructed.	Description of work.	Place where constructed.	Cost.	Total of districts.	Grand Total of Division.	
					Rs. A. P.	Rs. A. P.	Rs. A. P.	
Presidency—contd.	Jessore	Gopal Chandra Pal	Tank	Gaidgachi	200 0 0			
		Khetra Mohun Mitra	Do.	Ditto	400 0 0			
		Moti Lal Kundu	Do.	Rupsha	400 0 0			
		Khetra Babu Nasadar	Do.	Moorari	400 0 0			
		Wahab Coochman	Do.	Harbilla	700 0 0			
		Munni Simal	Do.	Chaula	300 0 0			
		Kushti Mulla	Do.	Narendrapore	300 0 0			
		Thakur Das	Do.	Mansherpore	350 0 0			
		Mamulab Biswas	Do.	Mura Shiga	400 0 0			
		Kesari Das	Do.	Baladanga	400 0 0			
		Muri Biswas	Do.	Sing Jalli	500 0 0			
		Sukul Mondal	Do.	Barinda	300 0 0			
		Gagan Mistry	Do.	Gandipur	300 0 0			
		Chorakshi Sheikh	Do.	Bhokara	400 0 0			
		Rasul Mondal	Do.	Shamnapur	700 0 0			
		Thakurani Dasg	Do.	Mohani	600 0 0			
		Alabi Kish	Bridge	On the river Haribar	2,500 0 0			
		Jesendra Nath Das	Tank	Digul Bandi	500 0 0			
		Chandra Nath Sirkar	Do.	Kumaram	500 0 0			
		Presidency—contd.	Moorshedabad	Keshi Mina	Do.	Dumartollah	400 0 0	
Keshi Sheikh	Do.			Ditto	300 0 0			
Jhara Sirkar	Do.			Malidanga	300 0 0			
Madhu Sheikh	Do.			Soma	200 0 0			
Pari Mohun Mozumdar	Do.			Luhagra	375 0 0			
Works costing less than Rs. 300 each					105 0 0			
Nawab Bahadur of Moorshedabad	Tank			Jahannali Gurha	2,074 14 0			
Do.	Do.			Powh	100 0 0			
Roy Bahadur Boodbongsh dhooria	Dharmachalia			Atinguara	6,000 0 0			
Roy Bahadur Bishen Chand dhooria.								
		TOTAL OF PRESIDENCY DIVISION		8,874 14 0		81,780 0 0		
Presidency—contd.	Dinapore	Mohadeo Das	Tank	Hasanpore	700 0 0			
		Ashkar Mondal	Do.	Chuk	600 0 0			
		Pari Mohun Nandi	Do.	Marnai	600 0 0			
		Raja Mondal	Do.	Gool	300 0 0			
		Ram Chandra Shaha	Do.	Simpahar	800 0 0			
		Shookaru Hanja	Do.	Shinkuri	400 0 0			
		Gangadhar Koya	Do.	Ditto	425 0 0			
		Warda Hazi	Do.	Hasnudebpore	375 0 0			
		Chaitan Shaha	Do.	Multhipore	300 0 0			
		Koodi Punahayot	Do.	Katia	200 0 0			
Presidency—contd.	Rajshahye	Chuti Fakir	Do.	Hasnudebpore	275 0 0			
		Natoo Nohya	Do.	Bhangpara	325 0 0			
		Works costing less than Rs. 300 each			1,082 0 0			
		Khudi Mondal	Tank	Jhinapara	400 0 0			
		Achajan Molla	Do.	Jhinapara	400 0 0			
		Mollu Mondal	Do.	Motihar	200 0 0			
		Shital Molla	Do.	Daul	400 0 0			
		Shonal Pramanik	Do.	Ahya Gotoopore	700 0 0			
		Kumar Jogendra Nath Roy	Do.	Bonarypara	1,000 0 0			
		Rokha Kar Molla	Do.	Nepalidahi	1,000 0 0			
Presidency—contd.	Rangpore	Durga Nath Karmakar	Do.	Abdulpore	800 0 0			
		Khadu Sholan	Do.	Kuchumba	400 0 0			
		Bholu Mondal	Do.	Ditto	750 0 0			
		Kina Paki	Do.	Bhabra	320 0 0			
		Araj Fakir	Do.	Shomba	500 0 0			
		Molom Shaha	Do.	Par Janky	700 0 0			
		Madhub Mondal	Do.	Shadypore	1,000 0 0			
		Mr. Lang, for Robert Watson & Co.	Do.	Bilmari	3,000 0 0			
		Pamos Pramanik	Do.	Toon Shau	1,000 0 0			
		Kater Mondal	Do.	Junira	375 0 0			
Presidency—contd.	Rangpore	Ashak Moulavi	Do.	Ditto	375 0 0			
		Works costing less than Rs. 300 each			350 0 0			
		Newaj Mohamed Gobdar	A masonry bridge	Sheroobhanga village, police-station M. Thakur.	850 0 0			
		Niwamut Patwari	Tank	Bombay village, police-station Nesumtunga.	1,300 0 0			
		Tatta Ram Das Patwari	Do.	Khasamadati village, police-station Kalakurga.	500 0 0			
		Jarip Mohamed	Do.	Dharmabare village, police-station Uthpore.	600 0 0			
		Dharia Dawal	Do.	Shakara village, police-station Uthpore.	570 0 0			
		Hianbdi Nasbyo	Do.	Palascha village, police-station Sundergunge.	300 0 0			
		Rahumanbasa Bibi	Road	From Pasha village to Lal-chamar Bunder.	450 0 0			
		Ram Ratan Sirkar	A masonry well	Dhappatanga village.	400 0 0			
Presidency—contd.	Rangpore	Jannai Bullava Sen	Ditto	Boro Bhitia village, police-station Jaldhaka.	300 0 0			
		Newaj Mahamed	Tank	Jhema village, police-station Sundergunge.	350 0 0			
		Janeolla Shonar	Tank	Atapara, police-station Boera	375 0 0			
		Moharula	Do.	Kamargari, police-station Boera.	600 0 0			
		Gorinda Chandra Shaha	Do.	Matadali, police-station Bora	1,200 0 0			
		Moharula Pramanik	Do.	Dhura, police-station Shik-gunge.	1,000 0 0			
		Taj Pramanik	Do.	Lukhipore, police-station Shikbunge.	250 0 0			
		Dhataroo Pramanik	Do.	Banastagar, police-station Shikbunge.	200 0 0			
		Kadha Mohun Chowdhuree	Do.	Tiskpore, police-station Adandighi.	1,000 0 0			
		Raj Mohun Shaha	Do.	Govindpore, police-station Adandighi.	2,000 0 0			
Presidency—contd.	Purnea	Lashu Kanta Pramanik	Tank	Pubna town	10,000 0 0			
		A-ukul Chandra Kunda	Do.	Govindpore, thana Dulai	500 0 0			
		Dharmul ar Shaha	Do.	Uthapara, thana Shivarapora	500 0 0			
		Kashu Chandra Pramanik	Do.	Choromure, thana Uthapara	500 0 0			
		Hayamshi Roy, zamindar	Do.	Banshabara, thana Roygunge	600 0 0			
		Mohur Molla	Do.	Talam, thana Roygunge	1,000 0 0			
Presidency—contd.	Darjeeling							

Division.	District.	Name of individual by whom constructed.	Description of work.	Place where constructed.	Cost.	Total of district.	Grand Total of Division.	
RAJSHAHY- POND.	Jalpigore	His Highness the Maharajah of Cooh Behar	Three pipe wells	Ranigunge	Rs. A. P. 816 0 0	2,642 0 0	50,655 0 0	
		Ditto ditto	Improvements to dispensary buildings.	Soda and Debigunge	221 0 0			
		Ditto ditto	Tank	Hoda	438 0 0			
		Ditto ditto	Temple	Hoda	809 0 0			
		Works costing less than Rs. 200 each				827 0 0		
					TOTAL OF RAJSHAHY DIVISION			
	Dacca	Mossamut Razoni, wife of Rasan Begari, of Rasan Bag.	A masonry ghât	Naralingunge on the east side of the municipal tank.	300 0 0	963 0 0		
		Bahoo Okhoy Chandra Shome	Tank	Krishnapura, in thana Naralingunge.	300 0 0			
			Works costing less than Rs. 200 each					153 0 0
Furreedpore	Giris Chandra Sarkar	Tank	Godardhardangi, thana Furreedpore.	400 0 0	10,180 0 0			
	Maharajah Sir Jotendra Mohan Tagore, K.C.S.I.	Do.	Muraidaha, thana Furreedpore.	2,000 0 0				
	Gobinda Biswas	Do.	Kranda, outpost Hamdampore.	(a) 400 0 0				
	Jadav Chandra Ghose	Do.	Dhupri, thana Fungua	500 0 0				
	Naba Krishna Kachara	Do.	Dudkhali, outpost Habi-gunge.	250 0 0				
	Gyuddin Ahmed	Do.	Rahadurpur, thana Shibpur	2,000 0 0				
	Rajon Kantha Ghatak	Do.	Bahchar, thana Palong	1,000 0 0				
	Chandra Kumar Sen	Do.	Ditto ditto	250 0 0				
	Mohesh Chandra Mukerji	Do.	Palong, thana Palong	300 0 0				
	Hakanta Chandra Bala	Do.	Tinkhar, thana Palong	700 0 0				
	Baloo Kahi Krishna Tagore	Do.	Hatara, outpost Burrial	700 0 0				
	Dena Bhabhu Sikdar	Do.	Jinkarhat, ditto	800 0 0				
	Hama Charan Roy Choudhuri	Do.	Burgram, thana Gopalgunge.	300 0 0				
		Works costing less than Rs. 200 each					(b) 420 0 0	
Dacca	Bakergunge	Bahoo Behari Lal Roy	Higher class English school.	Barisal	500 0 0	2,450 0 0		
		Tukari Peshkar	Tank with masonry ghât.	Jhalakati	300 0 0			
		Achhar Bepali	Tank	Barapata	500 0 0			
		Hira Gari	Do.	Chhatapata	200 0 0			
		Jinnat: Taluqdar	Do.	Chhatapata	100 0 0			
		Works costing less than Rs. 200 each				250 0 0		
	Mymensingh	Bhole Nath Bhaduri	Tank	Bhakhakia, police-station	500 0 0	13,515 0 0		
		Jorip Sheikh	Do.	Kulpa, police-station Kut-wali.	375 0 0			
		Kubir Sheikh	Do.	Kushar, police-station Kut-wali.	400 0 0			
		Munshi Mandal	Do.	Baisbar, police-station Phulbaria.	600 0 0			
Leone Munshi		Do.	Nyachari, police-station Phulbaria.	400 0 0				
Nobin Kishori Choudhuran		Do.	Lushipore, police-station Phulbaria.	500 0 0				
Har Das		Do.	Angaripara, police-station Phulbaria.	500 0 0				
Nur Das		Do.	Chowdar, police-station Phulbaria.	350 0 0				
Jabir Bepari		Do.	Anbopara Joydee, police-station Phulbaria.	375 0 0				
Tenkar Das		Do.	Ditto ditto	350 0 0				
Sharoop Bepari		Do.	Anbari, police-station Phulbaria.	475 0 0				
Anwar Singh		Do.	Kus-harchalia, police-station Phulbaria.	475 0 0				
Karim Rahim Sheikh		Do.	Rahimpore, police-station Phulbaria.	400 0 0				
Kali Nath Noori, Taluqdar		Do.	Dier, outpost Pengna	700 0 0				
Thakur Das Shaha	Do.	Sarakshari, ditto	515 0 0					
Biswasari Devi Choudhuran	Do.	Issergunge, outpost Issergunge.	4,500 0 0					
CHITTAGONG	Tipperah	Mahajan Sheikh	Do.	Nandail, outpost Nandail	400 0 0	2,230 0 0		
		Mahar: Idd	Do.	Jagerpore, ditto	300 0 0			
		Ahali Mir Sarkar	Do.	Ditto ditto	400 0 0			
		Soleman Sheikh	Do.	Kalnapore, ditto	300 0 0			
		Bahoo Gobinda Chandra Roy	Well	Beshaherhut, police-station Tangail.	1,000 0 0			
					TOTAL OF Dacca DIVISION		27,988 0 0	
	CHITTAGONG	Tipperah	Ram: Ali	New tank	Karnikandy, Daudkandy	200 0 0	2,230 0 0	
			Shafarudy	Ditto	Bakstarnapur ditto	250 0 0		
			Ram	Ditto	Ditto ditto	200 0 0		
			Narain Kaibarta	Ditto	Ditto ditto	300 0 0		
Noakhully		Ahmedud	Ditto	Shuwakandee ditto	300 0 0	1,230 0 0		
		Rector	Ditto	Kamarkandy ditto	400 0 0			
		Shahir Mahomed	Ditto	Haripur ditto	200 0 0			
		Hushumudi	Ditto	Biramkandy ditto	200 0 0			
		Works costing less than Rs. 200 each				230 0 0		
Chittagong		Petambar Shaha	Tank	Rahpara, Chagalaya	1,000 0 0	2,200 0 0		
		Works costing less than Rs. 200 each			230 0 0			
	Shati Charan Masumdar	Tank	Suchakradundi Pates	1,200 0 0				
	Chand Meah	Do.	Hogult, Mirkesari	500 0 0				
Chittagong Hill Tracts.	Samed Ali	Do.	Paschim, Isakhal, ditto	500 0 0	2,200 0 0			
PATNA	Patna	Tulsi Das Mahanth	3 masonry wells	Ichhoo	200 0 0	25,907 0 0		
		Moulvie An Ahund, for Bibi Sogra, widow of Moulvie Abdul Aziz.	Tank	Kaila	25,000 0 0			
								607 0 0

(a) District Board paid half the amount.

(b) Of this amount, District Board paid Rs. 150.

Division.	District.	Name of individual by whom constructed.	Description of work.	Place where constructed.	Cost.	Total of districts.	Grand Total of Division.
					Rs. A. P.	Rs. A. P.	Rs. A. P.
Gya		E. Salora, Esq.	Embankment	Belsour	495 0 0		
		Ditto	Ditto	Boopach	335 0 0		
		Ditto	Ditto	Gonsore Jounah	330 0 0		
		Harbans Gir Gosain	Tank	Bodh Gaya	500 0 0		
		Baboo Budaki Lal Dewan of Baboo	Well	Beldam Hamlet	500 0 0		
		Ran Boudhar Singh					
		Ali Raza Khan	Do.	Nojauli	200 0 0		
		Heera Singh	Do.	Karnathoo	200 0 0		
		Mewa Lal	Do.	Ami	300 0 0		
		Saba Singh	Do.	Gandron	200 0 0		
Shahabad		Kant Behari Sahu	Do.	Rasool	200 0 0		
		Gosain Himuldeo Gir	Do.	Gosain Peshra	200 0 0		
		Gosain	Do.	Dandnagar	200 0 0		
		Phulmanha	Do.	Ajra	200 0 0		
		Parmanand Babaji	Do.	Kashunpur Khurd	400 0 0		
		Works costing less than Rs. 500 each			2,184 0 0	10,908 0 0	
		Ram Jivan Roy	Masonry well	Lowhar Khurd	225 0 0		
		Mukham Das	Ditto	Saba	200 0 0		
		Harnam Lal	Ditto	Karnapore	200 0 0		
		Rameswar Mbar	Ditto	Sardona	250 0 0		
PATNA—contd.		Shree Das Lal	Ditto	Harnam	210 0 0		
		Lipadwar Lal	Ditto	Ditto	200 0 0		
		Musamant Mla	Ditto	Harnam	200 0 0		
		Harnam Lal Noonar	Ditto	Amnon	270 0 0		
		Gopal Shah	Ditto	Sopah	300 0 0		
		Amr Singh	Ditto	Chandwal	400 0 0		
		Rames Chatur Singh	Ditto	Harmon	300 0 0		
		Akbar Teli	Ditto	Karna	200 0 0		
		Kaloo Singh	Ditto	Natokpur	200 0 0		
		Imrit Lal	Ditto	Tawa	300 0 0		
Durbhanga		Musamant Radha Kuar	Tank	Mehonish	200 0 0		
		Harnamwar Pandey	Do.	Kabirpur	200 0 0		
		Works costing less than Rs. 500 each			2,418 0 0	6,548 0 0	
		Gehind Sahu	Tank	Risour	600 0 0		
		Mohant Narain Doss	Do.	Kanpatti	2,000 0 0		
		Kalor Thakoor	Do.	Madinal	200 0 0		
		Hidya Nath Jha	Do.	Shadbankarpore	200 0 0		
		Jadu Nandan Pathak	Do.	Somnat	700 0 0		
		Chna Mondoo	Do.	Bardi	400 0 0		
		Jhank Gwala	Do.	Sodra	600 0 0		
Moudharpore		Hita Gwala	Do.	Do.	200 0 0		
		Mohant Narain Doss	Do.	Madhapore	900 0 0		
		Ram Das Gwala	Do.	Deoria	700 0 0		
		Chandi Baboo	Do.	Parwan	2,000 0 0		
		Thitaur Jha	Do.	Karnaul	200 0 0		
		Hidya Nath Jha	Do.	Karhi	400 0 0		
		Shank Jha	Do.	Murthi	1,000 0 0		
		Digambar Singh	Do.	Andhera Moth	1,000 0 0		
		Rangi Mahi	Do.	Pamo	200 0 0		
		Blunwan Mander	Do.	Do.	200 0 0		
Baran		Jalim Mander	Do.	Parahra	1,000 0 0		
		Sapan Rawat	Do.	Kumar	900 0 0		
		Poran Gwala	Do.	Humare	200 0 0		
		Jhank Gwala	Do.	Jhankpatti	200 0 0		
		Rampat Mander	Do.	Goprasahi	700 0 0		
		Cheddi Sahu	Do.	Madhapore	200 0 0		
		Punup Lal Sahu	Do.	Lachimpore	1,000 0 0		
		Deonath Jha	Do.	Bereva	1,000 0 0		
		Doon Choudhary	Do.	Tara Sahi	1,000 0 0		
		Mongal Gwala	Do.	Saundau	1,000 0 0		
Moudharpore		Bacha Thakur	Do.	Lachar	1,000 0 0		
		Ganga Pershad	Do.	H. Charpore	1,000 0 0		
		Ranga Jha	Do.	Motuna	1,000 0 0		
		Bhailoo Choudhary	Do.	Kotulpore	200 0 0		
		Kari Jha	Do.	Bereva	200 0 0		
		Dodhrain Ghain	Do.	Karnaul	1,000 0 0		
		Jungli Jha	Do.	Karnaul	1,000 0 0		
		Mohi Sori	Do.	Karnaul	1,000 0 0		
		Shank Pak Ali	Masonry well	Karnaul	1,000 0 0		
		La in Baboo alias Baboo Brij Behari Lal	Do. bridge	Madonipore	700 0 0		
Moudharpore		Works costing less than Rs. 200 each			4,325 0 0	28,423 0 0	
		Choudhary Thakur	Tank	Patahirup	200 0 0		
		Jawan Teli	Well	Bazra	200 0 0		
		Damri Lal	Well	Deoria	400 0 0		
		Lachin Pandey	Bridge	Mehna	500 0 0		
		Karnaul Pandey	Tank	Madhapore Rasulabad	2,500 0 0		
		Karnaul Pandey	Well	Sampore Gonsah	250 0 0		
		Sahar Bazar	Tank	Mail	1,001 0 0		
		Gosai Singh	Do.	Sampore	200 0 0		
		Ran Sahai Koorra	Bridge	Methna Malik	200 0 0		
Baran		Nathu Mahlon	Tank	Sachara	700 0 0		
		Nathu Mahlon	Do.	Rajwara	300 0 0		
		Ran Chaman Raut	Do.	Dabikwa	1,000 0 0		
		Madanlal Raut	Do.	Do.	1,000 0 0		
		Ajodhya Nath Misar	Do.	Pata	700 0 0		
		Makand Jha	Do.	Sampore	200 0 0		
		Nathu Sahu Teli	Do.	Vaha Kulan	1,000 0 0		
		Tiluck Khawra	Do.	Amilahan	600 0 0		
		Memar Kowhar	Do.	Bupatti	700 0 0		
		Works costing less than Rs. 200 each			14,904 0 0	77,486 0 0	
Baran		Gokul Pandey	Well	Dharaha	200 0 0		
		Gopi Baham Lal	Do.	Sahpore	200 0 0		
		Gopur Das Sah	Do.	Sahpore Dighwara	200 0 0		
		Rajpur Singh	Do.	Chakkar	200 0 0		
		Indrajit Pershad	Do.	Deoria	200 0 0		
		Sandha Singh	Do.	Pendhart	200 0 0		
		Ran Raha Sah	Do.	Jahnpore	200 0 0		
		Sahpore Lal	Do.	Rahpore	200 0 0		
		Mohant Narain Doss	Do.	Deoria	200 0 0		
		Ran Raha Sah	Do.	Rahpore	200 0 0		
Baran		Tiluck Pershad	Do.	Amilahan	600 0 0		
		Imrit Sahu	Tank	Punawill	2,000 0 0		
		Works costing less than Rs. 200 each			10,414 0 0	88,814 0 0	

Division.	District.	Name of individual by whom constructed.	Description of work.	Place where constructed.	Cost.	Total of districts.	Grand Total of Division.
PATNA—continued.	Chumparan	Hurihar Misir Bhoorab Sahu Prag Torha Jasoo Bhagat Tappi Thakur Ghun Ram Satri Fajdar Sing Kadai Rai Purneswar Rai Doollun Sahaba Beshia Ditto Ran Durshan Pande Hurbanu Misir Lall Chand Chamar Pringar Rai Dulhan Sahab Beshiah Chhatroo Tell Kunkar Tell Narsingh Sahoy Baghe Jagtu Mullick Khaki Bala Sadru Works costing less than Rs. 200 each.	1 Well Bridge Do. Do. Tank Well Tank Do. Road Well Do. Do. 2 Wells Well 2 Wells Well Do 3 Wells Well Do	Rugao Mouza Chupra Ditto Mishoonpara Moodla Khanisra Khajkora Ditto Jhannara Jaman Bhuraha Parurda Jacolia Jomoro Beldari Bukhria Nawapore Muthpali Do Maharia Parawni Legunba	Rs. A. P. 300 0 0 300 0 0 300 0 0 300 0 0 300 0 0 1,400 0 0 200 0 0 400 0 0 300 0 0 200 0 0 225 0 0 200 0 0 300 0 0 200 0 0 400 0 0 200 0		

Division.	District.	Name of individual by whom constructed.	Description of work.	Place where constructed.	Cost.	Total of districts.	Grand Total of Division.
Orissa—con- cluded.	Balasore	Apathi Dibba of Kapasuria, pergunnah Mongla in Kachhi.	Tank ... ..	Napo, police-station Jellapore	Rs. A. P. 1,070 0 0	Rs. A. P. 9,681 8 0	Rs. A. P.
		Dhoorah Charan Janah of Nepo	Do. ... ..	Khoorda, police-station do.	500 0 0		
		Haboo Akhey Narayan Das of Balishahi in Midnapur district.	Do. ... ..	Muchitrapur, police-station Hallahal.	300 0 0		
		Haboo Sunder Das of Kohbra, pergunnah Mohaspur.	Do. ... ..	Mohaspur, police-station Halapal.	500 0 0		
		Haboo Akhey Kumar Das of D-harda, pergunnah Biraul.	Do. ... ..	Puntye, police-station Bala-pal.	300 0 0		
		Hurry Panurrahi of Diya, pergunnah Nandeesar.	Do. ... ..	Kooda, police-station Bunta	350 0 0		
		Balindhra Das of Baghua, pergunnah Banchar.	Do. ... ..	Hanagort, police-station do.	600 0 0		
		Arun Das Nawashahi, pergunuah Arno.	Do. ... ..	Nochipuri, police-station Bunta.	900 0 0		
		Ramprasad Malik of Nalanga, per-gunnah Rundhia Arsurah.	Do. ... ..	Nalanca, police-station Bhud-druck.	300 0 0		
		Kali Panda of Patooli, pergunnah Bono.	Do. ... ..	Patooli, police-station Bhud-druck.	325 0 0		
		Fakir Baboo and Kaley Bank of Ka-raudimal, pergunnah Kyne.	Do. ... ..	K-raudimal, police-station Chandballi.	300 0 0		
		Works costing less than Rs. 200 each	.....	.....	1,845 0 0		
	Poonoe	Bharat Sahu	Tank ... ..	Panchpalli, Khoorda	400 0 0	1,908 0 0	
		Dinabazulu Misra	Do. ... ..	Serdapur, ditto	600 0 0		
		Bhagirathi Mahanti	Do. ... ..	Autarkhan, Ranpur	420 0 0		
		Works costing less than Rs. 200 each	.....	.....	468 0 0		
	<b>TOTAL OF ORISSA DIVISION</b>						
	Hazaribagh	F. F. Christian, Esq., of Gawan	A bandh ... ..	Tigree	300 0 0	300 0 0	
		Works costing less than Rs. 200 each	.....	.....	100 0 0		
	Lohardugga	Works costing less than Rs. 200 each	.....	.....	185 0 0	185 0 0	
CHOTA NA-G-PORH.	Manbhoom	Kanco Mundia of village Barua, per-gunnah Gola in Hazaribagh District.	Excavating a tank	Digardi, police-station Jhalda	300 0 0	1,250 0 0	
		Biswan Ghosal of village Kharkhari, pergunnah Tepechand.	Ditto	Kharkhari, pergunnah Tepechand.	300 0 0		
		Gopi Nath Bhagat of village Toondi, pergunnah Toondi.	Well	Toondi, pergunnah Toondi	300 0 0		
		Works costing less than Rs. 200 each	.....	.....	150 0 0		
	Singhbhum	Sridhar Mandal of Seraikeella	Bandh	Jumal in Seraikeella	240 0 0	1,335 0 0	
		Haboo Goswami Chunder Singh Des of Seraikeella	Do.	Bhurkuli in ditto	300 0 0		
		Mohan Patter of Dhuijbhoom	Tank	Parabalka in Dhuijbhoom	300 0 0		
		Jaduhir Mandal of do.	Do.	Jamundibi in ditto	300 0 0		
		Works costing less than Rs. 200 each	.....	.....	412 0 0		
	<b>TOTAL OF CHOTA NAHPORN DIVISION</b>						

### Summary.

								Rs.	A.	P.
Total of	Burdwan	Division	...	...	...	...	...	23,105	0	0
Ditto	Presidency	do.	...	...	...	...	...	81,780	9	0
Ditto	Rajshahye	do.	...	...	...	...	...	50,668	0	0
Ditto	Dacca	do.	...	...	...	...	...	27,940	0	0
Ditto	Chittagong	do.	...	...	...	...	...	5,716	0	0
Ditto	Patna	do.	...	...	...	...	...	1,52,343	0	0
Ditto	Bhagnipore	do.	...	...	...	...	...	41,377	0	0
Ditto	Orissa	do.	...	...	...	...	...	9,652	8	0
Ditto	Chota Nagpore	do.	...	...	...	...	...	3,100	0	0
<b>GRAND TOTAL OF DIVISIONS</b>								<b>8,95,242</b>	<b>1</b>	<b>0</b>



## PUBLIC WORKS DEPARTMENT.—BENGAL.

## IRRIGATION.

The following Note on irrigation operations from the Sone Canals during the kharif season 1889-90 is published for general information.

By order of the Lieutenant-Governor of Bengal,

C. W. I. HARRISON, *Lieut.-Col., R.E.*,

*Offg. Joint-Secy. to the Govt. of Bengal, P. W. Dept.*

*Note by C. W. ODLING, Esq., Superintending Engineer, Sone Circle, on irrigation operations from the Sone Canals during the kharif season 1889-90,—dated 12th January 1890.*

1. The season, though the rainfall was at times in defect, was on the whole not an unfavourable one so far as the rice crop was concerned, rain continuing to fall to a later date in September than was the case in the previous year. The main features of the rainfall during the two years are shown in the table below :—

*Comparative statement of rainfall during the years 1888 and 1889.*

MONTHS.	RECORDING STATIONS.				
	Arrah.	Buxar.	Bankipore.	Dehree.	
	Inches.	Inches.	Inches.	Inches.	
July 1889 ...	13.58	16.89	8.84	7.22	
August „ ...	13.68	11.09	9.49	19.21	
September „ ...	5.15	6.00	15.70	7.00	
October „ ...	0.92	1.02	0.05	2.84	
Total ...	33.33	35.00	34.08	35.77	34.55 average.
July 1888 ...	17.90	12.11	15.14	15.90	
August „ ...	17.74	13.39	17.11	15.36	
September „ ...	5.58	11.25	3.17	7.93	
October „ ...	0.43	0.60	Nil	1.36	
Total ...	41.65	37.35	35.42	40.55	38.74

The rainfall during 1889 was little, if at all, below the normal rainfall, which is 41.25

There was a fall of  $\frac{1}{4}$  of an inch at Arrah on the 7th October, none elsewhere.

inches for the year, for the area commanded by the Sone Canals. There was, however, except at Bankipore no rain until the last day of the *Hutia* (25th September to 8th October), and the fall during the whole month of October was scanty and made up of insignificant showers.

2. The area irrigated during the season, and during the corresponding periods of 1888, 1887 and 1886, are shown in the statement following :—

	Five-year leases.	Annual kharif.	Sugarcane.	Kharif rainfall, July to October, inclusive average of head- quarters stations.
	Acres.	Acres.	Acres.	
1889-90 ...	216,000	38,500	5,626	34.55
1888-89 ...	200,102	69,628	4,600	39.12
1887-88 ...	210,164	57,595	6,265	26.65
1886-87 ..	194,556	30,082	11,626	49.40

The figures for 1889-90 are approximate, as the complete areas have not yet been reported, but on the information at present available the total area irrigated was 260,000 acres against 274,330 acres in 1888-89.

The deficiency is wholly in annual kharif leases, the five-year leases having increased by 16,000 acres, notwithstanding the lapse of leases for 45,445 acres on the 1st April 1889. Applications for 5-year leases for 29,788 acres were refused for want of proper channels or other good reasons. The falling off in the area under irrigation, compared with the previous year, shows how much more potent a factor is the time at which rain occurs than the total rainfall of the season or year.

3. The discharge of the canals during the thirty days of greatest demand for the last two years is shown in the subjoined abstract:—

PERIOD.	DISCHARGE IN CUBIC FEET PER SECOND.			
	Eastern Main Canal.	Western Main Canal.	Arrah Canal system.	Buxar Canal system.
1889.				
September, 21st to 30th ...	1,021	1,805	1,008	770
October, 1st to 10th ...	1,482	3,857	2,008	1,247
Do., 10th to 20th ...	1,457	3,474	2,155	1,296
1888.				
September, 21st to 30th ...	1,057	2,138	1,700	551
October, 1st to 10th ...	1,439	3,427	2,076	1,225
Do., 10th to 20th ...	1,450	3,858	2,360	1,492

It will be noticed that the demand for water during the first twenty days of October was not materially less than in 1888.

4. The same precautions as were reported last year have been taken to confine the supply of water to leased areas.

5. The report is submitted by me, as I was in charge of the circle during the kharif season.

C. W. ODLING,  
Superintending Engineer on Special duty.

## Rainfall, Weather, and State and Prospects of the Crops.

Statement showing Rainfall, Weather, and State and Prospects of the Crops in the different districts of Bengal, as reported to Government, during the week ending the 11th January, 1890.

No.	District and date of return.	Rainfall at Sudder Station in inches.	Character of the weather and state and prospects of the crops.
BENGAL.			
Western Districts.			
BURDWAN DIV.	1 Burdwan Jan. 11, '90	Nil	Weather—rather a little warm than what should be, considering the season. Harvesting of <i>aman</i> is going on. Prospect of <i>rubbi</i> reported to be good everywhere except at the head-quarters subdivision, where it is below average. Prospects of potato and sugarcane good. Price of common rice at— <div><div>Burdwan Culina Cutwa Ranagunge</div><div>... ... ... ...</div><div>Srs. 10½ 15 15½ 16</div><div>} per rupee.</div></div>
	2 Bankura „ 11, '90	Nil	Weather—cold and clear. Outturn of <i>aman</i> crop is 10 annas on the average in the Sudder. <i>Radbi</i> crops growing tolerably well. Sugarcane being pressed in some parts of the Bishnupore subdivision. Coarse rice is selling at 21 seers per rupee at Sudder and 18½ seers at the Bishnupore subdivision.
	3 Birbhum „ 11, '90	Nil	Weather—cloudy and warm for time of year. Very good prospects for winter crops of all kinds. Price of rice 16½ seers at Soory and 15 seers at Rampore Hat, per rupee.
	4 Midnapur „ 11, '90	Nil	Weather—fair. <i>Aman</i> harvest nearly completed. The cutting of <i>rubbi</i> has commenced in some places. This crop is not a good one. Prices— <div><div>Sudder Contai Tamluk Ghatal</div><div>... ... ... ...</div><div>Srs. 16 25 18 20</div><div>} per rupee.</div></div>
	5 Hooghly „ 11, '90	Nil	Weather—very close. Harvesting of <i>aman</i> is nearly completed. Prospects of <i>rubbi</i> crop, specially sugarcane, is very hopeful. Price of common rice— <div><div>Sudder Serampore Jehanabad</div><div>... ... ...</div><div>Srs. Ch. 12 0 11 8 18 7</div><div>} per rupee.</div></div>
	Howrah „ 11, '90	Nil	Weather—warm for the season. Rain brewing up apparently. Prospects of crops good. <i>Aman</i> harvest going on. Price of common rice— <div><div>Sudder Ulubarya</div><div>... ...</div><div>Srs. 12½ 15½</div><div>} per rupee.</div></div>
Central Districts.			
PRESIDENCY DIV.	6 24-Parghs. Jan. 11, '90	Nil	Weather—seasonable. Harvesting of <i>aman</i> going on. Winter crops doing well.
	7 Kuddua „ 11, '90	Nil	Weather—seasonable. All the winter crops are doing well. <i>Kalai</i> is being cut and harvested.
	8 Khoolna „ 11, '90	Nil	Weather—seasonable. <i>Aman</i> harvest still progressing; outturn good. Prospects of winter crop good.
	9 Jessore „ 11, '90	Nil	Weather—cloudy in the latter part of the week. <i>Aman</i> harvesting nearly over. Cold-weather crops doing fairly well. Prices of rice stationary.
	10 Moorshedabad „ 11, '90	Nil	Weather—clear and cold. <i>Aman</i> is still being cut. Prospects of <i>rubbi</i> continue favourable.
RAJSHAHY DIV.	11 Dinagepur „ 11, '90	Nil	Weather—seasonable. The harvesting of winter rice nearly over. Pressing of sugarcane begun. Prospect of spring crops good.
	12 Rajshahye „ 11, '90	Nil	Weather—seasonable and partially cloudy. The prospect of the winter crop is generally good all over and sowing has come to a close. Prospect of <i>ganja</i> good at Nowgong. Rice sells at 16 seers 9 chittacks for the rupee.
	13 Rangpur „ 11, '90	Nil	Weather—overcast, warmer than last week. Sugarcane is being cut and crushed. Results good. Mustard is coming into seed. Tobacco is flourishing. Prospects of <i>rubbi</i> favourable. Prices have a downward tendency.
	14 Bogra „ 11, '90	Nil	Weather—days hot and nights somewhat cooler. One-eighth part of <i>aman</i> crop is remaining to be reaped. The expected outturn is about 18 annas. Other crops are also being reaped. Common rice at head-quarters is 21 seers per rupee.
	15 Pubna „ 11, '90	Nil	Weather—seasonable. <i>Aman</i> crop on low lands still being harvested. Outturn of <i>aman</i> below average in Sudder subdivision. Sugarcane deficient. Cold-weather crops satisfactory. Prices somewhat lower.
	16 Darjeeling „ 11, '90	16	Weather—cloudy and cold. Prospects generally good.
	17 Julpigoree „ 11, '90	16	Weather—cloudy and cold, but fair in the latter part of the week. Cutting of <i>haimanti</i> paddy nearly finished, and 14 annas outturn is expected. Tobacco plants doing well. No change in prices.

No.	District and date of return.		Rainfall at Sudder Station in inches.	Character of the weather and state and prospects of the crops.
BENGAL.—concluded.				
Eastern Districts.				
Dacca Divn.	18	Dacca Jan. 11, '90	Nil	Weather—cool and fine. <i>Boro</i> paddy being sown. Winter crops doing well. Harvesting of <i>mung</i> and <i>maskalai</i> commenced in the Manickgunge sub-division. Fodder is available. Prices of common rice stationary.
	19	Furzedpur „ 11, '90	Nil	Weather—warmer than usual at this time of the year. <i>Amra</i> paddy harvested. <i>Kalai</i> and <i>mung</i> being gathered. State of <i>rubbi</i> crops fair. Coarse rice selling at 17 seers per rupee in Madaripur and at 16 seers per rupee in Goalundo.
	20	Backergunge „ 11, '90	Nil	Weather—seasonable. Prospects of crops good. Harvesting of <i>amra</i> nearly completed. Common rice is selling at 16 seers per rupee.
	21	Mymensingh „ 11, '90	Nil	Weather—cool and bright. Prospects of <i>rubbi</i> crops good. Harvesting of <i>amra</i> paddy is still going on. Current price of the cheapest kind of rice is 12 seers 13 chittacks per rupee.
	22	Chittagong „ 11, '90	Nil	Weather—seasonable. Outturn of <i>amra</i> is 14 annas. State of winter crop is good.
Chittagong Divn.	23	Noakhully „ 11, '90	Nil	Weather—seasonable; cloudy at times. Reaping of <i>amra</i> almost completed. <i>Rubbi</i> crops doing well.
	24	Tipperah „ 11, '90	Nil	Weather—seasonable. Winter crops progressing well. Mustard is being collected.
	25	Chittagong Hill Tracts		Report not received.
	Hill Tipperah	Jan. 11, '90	Nil	Weather—gloomy and at times cloudy. <i>Amra</i> paddy and cotton continue to be gathered. Sugarcane and mustard do not look well. Prospects of tobacco and chillies fair.
BEHAR.				
Patna Divn.	26	Patna „ 11, '90	Nil	Weather—cold. <i>Rubbi</i> crops are doing well. A shower of rain will still do some good to the standing crops. Mustard and pea are in pod. Prospects of poppy favourable. Prices of food-grains are almost stationary.
	27	Gya „ 11, '90	Nil	Weather—cold. Harvesting of paddy still going on. Prospect of <i>rubbi</i> is good. Poppy plants are thriving. No person on relief work; none gratuitously relieved. Food-stock sufficient.
	28	Shahabad „ 11, '90	Nil	Weather—seasonable, but rather milder. The prospects of <i>rubbi</i> and poppy continue to be good. Sugarcane being pressed. Prices stationary.
	29	Durbhanga „ 11, '90	Nil	Weather—mornings foggy, hot during the day. Harvesting of rice completed. <i>Rubbi</i> prospects continue favourable. A shower of rain is, however, wanted. Poppy is good. Lands being prepared for indigo. Prices almost stationary.
	30	Muzafferpur „ 11, '90	Nil	Weather—rather cloudy during the week. Prospects of <i>rubbi</i> crop continue good. Poppy crop in Hajipur backward, and a good outturn not expected.
	31	Saran „ 11, '90	Nil	Weather—seasonable. Prospects of <i>rubbi</i> and poppy crops continue good. Sugarcane is being pressed. Outturn estimated at 16 annas.
	32	Champaran „ 11, '90	Nil	Weather—cold and clear; occasionally cloudy. <i>Rubbi</i> and poppy in good condition. A good shower of rain within the next fortnight will ensure an excellent crop. New rice selling at 19 seers a rupee. Sugarcane pressing continues.
Bhagalpur Divn.	33	Monghyr „ 11, '90	Nil	Weather—seasonable. <i>Aghani</i> paddy all harvested; outturn on the whole 14 annas. Standing <i>rubbi</i> crops doing well.
	34	Bhagalpur „ 11, '90	Nil	Weather—rather too warm; again mornings foggy. Rice harvest is almost over. Rain wanted for wheat and other <i>rubbi</i> crops.
	35	Purneah „ 11, '90	Nil	Weather—not so cold as is usual this time of the year. <i>Aghani</i> rice is nearly harvested. Outturn about average. Mustard and <i>kurthi</i> being reaped. <i>Rubbi</i> crops doing well. Prospects of tobacco good.
	36	Maldah „ 11, '90	Nil	Weather—rather hot for the season. Harvesting of winter rice crops still going on in some places. <i>Rubbi</i> crops are doing well everywhere except in thana English Bazar, where some damage has been done by insects. Common rice is selling at an average of 17 seers a rupee.
	37	Sonthal Pergah „ 11, '90	Nil	Weather—cold and clear. Harvesting of <i>dhan</i> nearly over; the outturn is almost an average one. <i>Rubbi</i> crops doing well and promise a good outturn.

No.	District and date of return.	Rainfall at Sudder Station in inches.	Character of the weather and state and prospects of the crops.
ORISSA.			
ORISSA DIV.	86 Cuttack	...	Report not received.
	89 Pooree Jan. 11, '90	Nil	Weather—seasonable. Harvesting of the winter (late <i>sarad</i> ) crop still continues. <i>Laghu sarad</i> was harvested with a good outturn. Prices of rice stationary.
	40 Balasore .. 11, '90	Nil	Weather—seasonable. Scarcely any paddy remains uncut. <i>Rabbi</i> crops fair.
CHOTA NAGPORE.			
South-West Frontier Agency.			
CHOTA NAGPORE DIV.	41 Hazaribagh Jan. 11, '90	Nil	Weather seasonable. Crops in excellent condition generally. Poppy doing well. Sugarcane being squeezed.
	42 Lohardugga .. 11, '90	Nil	Weather—seasonable; rather warmer. <i>Rabbi</i> crop is doing well, but some rain is wanted. Harvesting of paddy finished. Outturn appears to be fair.
	43 Singbhoom .. 11, '90	Nil	Weather—seasonable. Crop prospects good. Sugarcane is expected to yield a full outturn everywhere. <i>Sarao</i> and <i>sorgooja</i> outturn full in pergunnah Dhalbhum and on an average 12 annas elsewhere. Prices stationary.
	44 Manbhoom .. 11, '90	Nil	Weather—seasonable. Winter paddy still being threshed; probable outturn 14 annas. The crops on the grounds are mustard, sugarcane, and <i>arkar</i> . The prospects of these crops are promising.

Published for general information.

CALCUTTA; REVENUE DEPT.,  
The 14th January, 1890.

P. NOLAN,  
Secy. to the Govt. of Bengal.



STATEMENT SHOWING THE STOCKS OF RICE IN AND AROUND CALCUTTA.

NAME OF WARE.	STOCK IS SHOWN AS COMPILED ON—												
	1st week of Jan. 1859.	1st week of Feb. 1859.	1st week of Mar. 1859.	1st week of April 1859.	1st week of May 1859.	1st week of June 1859.	1st week of July 1859.	1st week of August 1859.	1st week of Sept. 1859.	3rd week of Oct. 1859.	1st week of Nov. 1859.	1st week of Dec. 1859.	1st week of Jan. 1860.
Billsbach	Mds. 2,90,000	Mds. 7,77,000	Mds. 12,43,000	Mds. 7,67,000	Mds. 8,72,000	Mds. 7,32,700	Mds. 8,01,000	Mds. 8,01,000	Mds. 8,01,000	Mds. 8,01,000	Mds. 8,01,000	Mds. 8,01,000	Mds. 8,01,000
Oeladaga	" 70,000	" 21,000	" 80,000	" 57,100	" 81,000	" 50,000	" 71,000	" 71,000	" 71,000	" 71,000	" 71,000	" 71,000	" 71,000
Chittore, Golabara, Chomera, Sury, Bithola, and Gully Gask.	" 6,00,000	" 6,00,000	" 7,00,000	" 7,00,000	" 7,00,000	" 7,00,000	" 7,00,000	" 7,00,000	" 7,00,000	" 7,00,000	" 7,00,000	" 7,00,000	" 7,00,000
Paharichatta, Faria, and Jambagan.	" 6,000	" 2,000	" 2,000	" 2,000	" 2,000	" 2,000	" 2,000	" 2,000	" 2,000	" 2,000	" 2,000	" 2,000	" 2,000
Taligumra, Chittah, Kilderpore, and Moushangan.	" 1,00,000	" 1,00,000	" 1,00,000	" 1,00,000	" 1,00,000	" 1,00,000	" 1,00,000	" 1,00,000	" 1,00,000	" 1,00,000	" 1,00,000	" 1,00,000	" 1,00,000
II Minor Banks (estimated) --	" 2,00,000	" 2,00,000	" 2,00,000	" 2,00,000	" 2,00,000	" 2,00,000	" 2,00,000	" 2,00,000	" 2,00,000	" 2,00,000	" 2,00,000	" 2,00,000	" 2,00,000
Other retail shops, 2,100 in number (estimated).	" 2,00,000	" 2,00,000	" 2,00,000	" 2,00,000	" 2,00,000	" 2,00,000	" 2,00,000	" 2,00,000	" 2,00,000	" 2,00,000	" 2,00,000	" 2,00,000	" 2,00,000
Sidderbattiy, Nowabnagar, Bhindranagar, and Chander- nagar.	" 22,500	" 14,750	" 20,000	" 19,750	" 19,750	" 19,750	" 19,750	" 19,750	" 19,750	" 19,750	" 19,750	" 19,750	" 19,750
Total	17,00,000	21,90,000	27,10,000	27,10,000	27,10,000	27,10,000	27,10,000	27,10,000	27,10,000	27,10,000	27,10,000	27,10,000	27,10,000
On Railway premises on both banks of the river.	11,000 (on 6th Jan. 1859.)	1,000 (on 6th Feb. 1859.)	1,000 (on 6th Mar. 1859.)	1,000 (on 6th April 1859.)	1,000 (on 6th May 1859.)	1,000 (on 6th June 1859.)	1,000 (on 6th July 1859.)	1,000 (on 6th Aug. 1859.)	1,000 (on 6th Sept. 1859.)	1,000 (on 6th Oct. 1859.)	1,000 (on 6th Nov. 1859.)	1,000 (on 6th Dec. 1859.)	1,000 (on 6th Jan. 1860.)
{ By Post Com- missioners' re- turns.	1,000 (on 6th Jan. 1859.)	1,000 (on 6th Feb. 1859.)	1,000 (on 6th Mar. 1859.)	1,000 (on 6th April 1859.)	1,000 (on 6th May 1859.)	1,000 (on 6th June 1859.)	1,000 (on 6th July 1859.)	1,000 (on 6th Aug. 1859.)	1,000 (on 6th Sept. 1859.)	1,000 (on 6th Oct. 1859.)	1,000 (on 6th Nov. 1859.)	1,000 (on 6th Dec. 1859.)	1,000 (on 6th Jan. 1860.)
{ By Canal returns	1,000 (on 6th Jan. 1859.)	1,000 (on 6th Feb. 1859.)	1,000 (on 6th Mar. 1859.)	1,000 (on 6th April 1859.)	1,000 (on 6th May 1859.)	1,000 (on 6th June 1859.)	1,000 (on 6th July 1859.)	1,000 (on 6th Aug. 1859.)	1,000 (on 6th Sept. 1859.)	1,000 (on 6th Oct. 1859.)	1,000 (on 6th Nov. 1859.)	1,000 (on 6th Dec. 1859.)	1,000 (on 6th Jan. 1860.)
Grand Total of Stocks	19,31,000	23,00,000	29,10,000	29,10,000	29,10,000	29,10,000	29,10,000	29,10,000	29,10,000	29,10,000	29,10,000	29,10,000	29,10,000
Probable stock available for exportation by sea.	6 lakhs	13 lakhs	17 lakhs	18 lakhs	17 lakhs	13 lakhs	12 lakhs	10 lakhs	9 lakhs	9 lakhs	7 lakhs	8 lakhs	7 lakhs

STATISTICAL DEPARTMENT,  
The 6th January, 1890.

P. NOLAN,  
Secy. to the Govt. of Bengal.

Results of the Meteorological Observations taken at the Alipore Observatory from  
5th to 11th January 1890.

Month.	Date.	Maximum in sun.	Number of hours of bright sunshine.	Mean pressure barometer at 32° Fahr.	TEMPERATURE.				HYGROMETRY.				WIND.		Rain.	WEATHER.
					Mean.	Maximum.	Range.	Minimum.	Mean wet bulb.	Vapour tension.	Dew point.	Humidity.	Prevailing direction.	Miles recorded.		
1890.		°		Inches.	°	°	°	°	°	Inches.	°	%			Inches.	
Jan.	5th	131.3	8.8	29.938	67.6	77.7	10.1	58.2	62.7	0.547	59.3	77	WSW and SW	80	Nil	Partially cloudy.
"	6th	129.1	9.0	30.003	67.5	77.9	10.4	58.0	62.7	509	59.4	77	SW and WNW	34	"	Chiefly clear.
"	7th	133.8	8.4	30.022	67.2	77.7	10.5	57.9	62.6	511	59.6	78	WNW and SW by W	61	"	Chiefly clear.
"	8th	135.5	9.1	29.981	67.4	78.5	11.1	58.3	62.8	514	59.8	78	SW by W and WSW	70	"	Clear.
"	9th	127.8	8.9	30.006	65.3	76.0	10.7	56.3	59.8	443	55.6	73	NNW, N and WNW	41	"	Clear.
"	10th	129.5	7.3	29.961	66.3	76.5	10.2	55.9	61.9	503	59.1	75	WNW and W by N	35	"	Partially cloudy.
"	11th	134.0	9.0	29.949	66.0	77.0	11.0	58.3	62.2	499	58.9	77	W by N and WNW	52	"	Chiefly clear.

The mean pressure of the seven days ... 29.980

The average pressure of the corresponding period for 24 years, S.-G.'s Office ... 30.020

The total number of hours of bright sunshine ... 60.5

The maximum possible number of hours of sunshine ... 75.5

The mean temperature of the seven days ... 66.9

The average temperature of the corresponding period for 24 years, S.-G.'s Office ... 67.2

The extreme variation of temperature ... 23.2

The maximum temperature ... 78.5

The highest velocity of the wind in one hour from 8 A.M. of the 5th to mid-

night of the 11th January 1890 ... 9

The highest pressure of wind on one square foot ... Not measurable.

The mean relative humidity ... 77

The average relative humidity of the corresponding period for 24 years, S.-G.'s

Office ... 71

The total fall of rain from 5th to 11th January 1890 ... Nil

The average fall of the corresponding period for 24 years, S.-G.'s Office ... 0.11

The total fall from 1st to 11th January 1890 ... Nil

The average fall of the corresponding period for 24 years, S.-G.'s Office ... 0.11

The mean pressure, temperature, &c., are deduced from the traces of the Barograph and Thermograph and from observations made at 6h, 10h, 16h, and 22h.

The maximum and minimum temperatures are obtained from self-registering thermometers. All the thermometers are verified, and the readings have been corrected to a standard constructed and verified at the Kew Observatory. They are exposed under a thatched shed open at the sides, and are suspended four feet above the ground.

The barometer readings are corrected approximately to those of the standard, Newman's No 86, formerly at the Surveyor-General's Office.

The hygrometric elements are obtained from Tables III, IV, and V of the official tables computed in the Meteorological Office, and based on Regnault's modifications of August's formula.

The directions and the movement of the wind are taken from the trace of a Beckley's anemograph.

The mouth of the rain-gauge is one foot above the ground.

☁ dew; ☁ fog.

\* Movement of wind from 8 A.M. to midnight of 5th January 1890.

C. LITTLE.

For Meteorological Reporter to the Govt. of India.

METEOROLOGICAL OFFICE, GOVT. OF INDIA;  
Calcutta, the 13th January 1890.

## Meteorological Report of the Province of

METEOROLOGICAL DIVISION.	DISTRICT.	Representative stations.	STATION OBSERVATIONS.																Rainfall.
			AIR PRESSURE.					TEMPERATURE.					HUMIDITY.		CLOUD.				
			Highest, 8 A.M., barometer reading of month.	Lowest, 8 A.M., barometer reading of month.	Mean, 8 A.M., for month.	Mean reduced to sea-level.	Variation from normal mean.	Highest of month.	Lowest of month.	Mean daily maximum temperature.	Mean daily minimum temperature.	Mean daily temperature.	Variation from normal mean.	Mean, 8 A.M., humidity.	Variation from normal mean.	Mean cloud amount, p.m.	Variation from normal mean.		
ORISSA.	Pooree	Pooree	30.121	29.946	30.033	30.015	—	85.2	83.0	84.1	83.7	84.7	84.1	+0.4	82	—	1.5	—	0.17
	Pooree	Pooree	30.106	29.943	30.024	30.013	—0.03	85.2	83.0	84.1	83.7	84.7	84.1	+0.4	82	—	1.5	—	0.17
	Pooree	Pooree	30.107	29.942	30.024	30.013	—0.03	85.0	82.0	84.0	83.0	85.0	84.0	+0.4	86	+5	2.2	0	1.00
SOUTH-WEST BENGAL.	Cuttack	Cuttack	30.070	29.901	29.984	29.970	—0.15	84.8	83.9	84.7	84.2	85.5	84.8	+0.5	74	+2	2.9	+1.1	Nil
	Balasore	Balasore	30.086	29.889	30.016	30.016	—0.15	84.9	83.5	84.2	84.1	85.1	84.6	+0.5	81	—	0.5	—	0.02
	South-West Midnapore and South 24-Pargannas.	Saugor Island	30.100	29.937	30.021	30.021	—0.21	81.7	84.8	83.8	83.4	84.1	83.8	+0.6	87	+3	2.0	0	0.63
SOUTH-WEST BENGAL.	Midnapore	Midnapore	29.986	29.814	29.907	29.907	—0.32	81.3	80.5	80.9	80.5	81.3	80.9	+0.5	74	—	1.4	—	Nil
	24-Pargannas, Howrah, and Hooghly.	Calcutta	30.120	29.938	30.029	30.029	—0.05	80.0	81.3	80.6	80.6	81.3	80.6	+0.6	81	+3	1.4	+0.6	0.03
	Burdwan	Burdwan	30.030	29.861	29.945	29.945	—0.30	82.1	82.3	82.0	82.0	82.3	82.0	+0.0	74	+3	1.6	+0.4	Nil
SOUTH-WEST BENGAL.	Bankura	Bankura	29.811	29.606	29.708	29.708	—0.38	80.6	80.0	77.4	83.2	80.3	+0.3	76	—	1.4	—	Nil	
	West Burdwan and Hooghly.	Ranikunge	29.806	29.625	29.730	29.730	—0.24	80.0	80.2	78.0	83.0	80.7	+0.8	78	—	1.2	—	Nil	
	Moohatsab	Berhampore	30.020	29.864	29.942	29.942	—0.06	80.1	82.2	77.0	87.1	87.1	+1.3	88	+9	1.8	+0.8	Nil	
SOUTH-WEST BENGAL.	Nadua	Krishnagore	30.003	29.812	29.914	29.914	—0.14	81.3	80.4	77.4	85.3	80.5	+0.4	85	—	1.6	—	Nil	
	Jessore and Khoolna	Jessore	30.000	29.800	29.902	29.902	—0.10	81.2	80.5	77.4	85.1	80.2	+1.7	95	+17	1.7	+0.5	Nil	
	Chittagong	Chittagong	30.010	29.827	29.922	29.922	—0.10	84.1	80.1	79.5	80.3	80.9	+1.9	88	+1	2.0	+2.7	0.07	
SOUTH-WEST BENGAL.	Chittagong Hill Tracts	Dumari	Observations not received.																
	Backergunge	Barisal	30.004	29.807	29.905	29.905	—0.10	81.8	84.1	77.1	83.4	87.3	+1.3	89	—	0.7	—	0.22	
	Noakhali	Noakhali	30.078	29.882	29.984	29.984	—	83.0	84.0	78.7	87.6	88.1	—	85	—	0.1	—	0.16	
SOUTH-WEST BENGAL.	Furriedpore	Furriedpore	30.080	29.886	29.988	29.988	—0.16	81.5	84.8	76.3	80.3	86.7	+1.4	89	—	0.7	—	Nil	
	Dacca	Dacca	30.083	29.910	30.007	30.007	—0.04	84.6	82.3	78.9	88.9	88.9	+1.1	84	+8	2.1	+0.8	Nil	
	Tippurah	Comilla	30.007	29.809	29.904	29.904	—0.21	83.4	80.0	79.1	87.6	88.4	+2.0	80	—	0.7	—	Nil	
SOUTH-WEST BENGAL.	Mymensingh	Mymensingh	30.047	29.877	29.959	29.959	—0.23	81.8	83.4	76.1	87.6	87.9	+2.8	93	—	2.1	—	Nil	
	Bogra	Bogra	30.042	29.852	29.948	29.948	—0.17	81.8	82.4	78.1	86.1	87.1	+0.6	85	—	0.3	—	Nil	
	Pubna	Nerajunga	30.070	29.880	29.986	29.986	—0.33	81.5	81.9	78.0	86.9	87.6	+2.4	89	—	1.5	—	0.13	
SOUTH-WEST BENGAL.	Majshah	Ramnagar	30.060	29.880	29.970	29.970	—0.03	79.9	81.7	76.8	86.2	86.5	+2.7	84	—	0.6	—	Nil	
	Maldah	Maldah	30.067	29.889	29.980	29.980	—	80.9	80.5	77.7	85.6	85.6	—	82	—	0.3	—	Nil	
	Dinapore	Dinapore	30.020	29.823	29.921	29.921	—0.06	81.1	80.3	78.5	84.0	85.2	+1.1	86	—	0.5	—	Nil	
SOUTH-WEST BENGAL.	Rangpur	Rangpur	30.019	29.819	29.914	29.914	—0.30	81.4	80.7	78.1	84.1	84.1	+2.3	92	—	0	—	Nil	
	Jalpaiguri and Cooch Behar	Jalpaiguri	29.959	29.759	29.859	29.859	—0.25	?	80.4	?	85.8	?	?	83	—	0.8	—	Nil	
	Darjeeling Hill Tracts	Darjeeling	31.043	29.841	29.942	29.942	—0.23	82.3	80.0	80.0	85.4	86.1	+2.3	78	+3	2.6	+0.6	Nil	
SOUTH-WEST BENGAL.	Purneah and North Bhatnagar.	Purneah	30.032	29.815	29.930	29.930	—0.27	78.3	80.2	76.0	81.2	83.4	+0.4	80	+5	0.4	+0.6	Nil	
	Measulapore	Measulapore	Observations suspended.																
	Durbhunga	Durbhunga	29.991	29.790	29.890	29.890	—	79.9	81.6	76.8	85.3	86.1	+2.6	83	—	0.1	+0.7	Nil	
SOUTH-WEST BENGAL.	Chumpra	Motihari	29.982	29.780	29.880	29.880	—0.12	78.6	81.0	75.5	80.7	82.6	+1.3	86	—	0.1	—	Nil	
	Narun	Chupra	29.981	29.779	29.879	29.879	—0.11	79.3	80.9	75.3	82.8	84.0	+2.4	72	—	0.1	—	Nil	
	Nababhat	Benar	29.979	29.777	29.878	29.878	—0.15	81.8	80.0	76.0	82.8	84.7	+2.9	74	—	0.4	—	Nil	
SOUTH-WEST BENGAL.	Gya	Gya	29.970	29.768	29.869	29.869	—0.10	79.8	80.0	76.0	80.7	82.9	+1.0	72	—	0.0	—	Nil	
	Patna	Patna	29.971	29.769	29.870	29.870	—0.24	80.0	80.0	76.9	82.3	84.0	+1.3	85	+1	1.9	+0.5	Nil	
	South Bhatnagar and Monroepore.	Bhatnagar	29.965	29.763	29.864	29.864	—0.08	79.8	80.0	76.7	81.9	83.4	+1.4	73	—	0.7	+1.0	Nil	
SOUTH-WEST BENGAL.	South Bhatnagar and Monroepore.	Bhatnagar	29.965	29.763	29.864	29.864	—0.08	79.8	80.0	76.7	81.9	83.4	+1.4	73	—	0.7	+1.0	Nil	
	South Bhatnagar and Monroepore.	Naya Bhatnagar	29.957	29.755	29.856	29.856	—	78.9	80.1	76.0	82.3	84.1	—	79	—	0.3	—	Nil	
	Hazratnagar	Hazratnagar	29.954	29.752	29.853	29.853	—0.07	78.1	80.0	75.1	80.9	83.0	+1.2	84	—	1.6	+0.3	Nil	
SOUTH-WEST BENGAL.	Chhatnagar	Chhatnagar	29.950	29.748	29.849	29.849	—0.06	77.0	80.7	75.1	80.3	81.1	+0.9	87	—	2.1	—	Nil	
	Chhatnagar	Chhatnagar	29.950	29.748	29.849	29.849	—0.06	77.0	80.7	75.1	80.3	81.1	+0.9	87	—	2.1	—	Nil	
	Chhatnagar	Chhatnagar	29.950	29.748	29.849	29.849	—0.06	77.0	80.7	75.1	80.3	81.1	+0.9	87	—	2.1	—	Nil	
SOUTH-WEST BENGAL.	Chhatnagar	Chhatnagar	29.950	29.748	29.849	29.849	—0.06	77.0	80.7	75.1	80.3	81.1	+0.9	87	—	2.1	—	Nil	
	Chhatnagar	Chhatnagar	29.950	29.748	29.849	29.849	—0.06	77.0	80.7	75.1	80.3	81.1	+0.9	87	—	2.1	—	Nil	
	Chhatnagar	Chhatnagar	29.950	29.748	29.849	29.849	—0.06	77.0	80.7	75.1	80.3	81.1	+0.9	87	—	2.1	—	Nil	
SOUTH-WEST BENGAL.	Chhatnagar	Chhatnagar	29.950	29.748	29.849	29.849	—0.06	77.0	80.7	75.1	80.3	81.1	+0.9	87	—	2.1	—	Nil	
	Chhatnagar	Chhatnagar	29.950	29.748	29.849	29.849	—0.06	77.0	80.7	75.1	80.3	81.1	+0.9	87	—	2.1	—	Nil	
	Chhatnagar	Chhatnagar	29.950	29.748	29.849	29.849	—0.06	77.0	80.7	75.1	80.3	81.1	+0.9	87	—	2.1	—	Nil	
SOUTH-WEST BENGAL.	Chhatnagar	Chhatnagar	29.950	29.748	29.849	29.849	—0.06	77.0	80.7	75.1	80.3	81.1	+0.9	87	—	2.1	—	Nil	
	Chhatnagar	Chhatnagar	29.950	29.748	29.849	29.849	—0.06	77.0	80.7	75.1	80.3	81.1	+0.9	87	—	2.1	—	Nil	
	Chhatnagar	Chhatnagar	29.950	29.748	29.849	29.849	—0.06	77.0	80.7	75.1	80.3	81.1	+0.9	87	—	2.1	—	Nil	
SOUTH-WEST BENGAL.	Chhatnagar	Chhatnagar	29.950	29.748	29.849	29.849	—0.06	77.0	80.7	75.1	80.3	81.1	+0.9	87	—	2.1	—	Nil	
	Chhatnagar	Chhatnagar	29.950	29.748	29.849	29.849	—0.06	77.0	80.7	75.1	80.3	81.1	+0.9	87	—	2.1	—	Nil	
	Chhatnagar	Chhatnagar	29.950	29.748	29.849	29.849	—0.06	77.0	80.7	75.1	80.3	81.1	+0.9	87	—	2.1	—	Nil	
SOUTH-WEST BENGAL.	Chhatnagar	Chhatnagar	29.950	29.748	29.849	29.849	—0.06	77.0	80.7	75.1	80.3	81.1	+0.9	87	—	2.1	—	Nil	
	Chhatnagar	Chhatnagar	29.950	29.748	29.849	29.849	—0.06	77.0	80.7	75.1	80.3	81.1	+0.9	87	—	2.1	—	Nil	
	Chhatnagar	Chhatnagar	29.950	29.748	29.849	29.849	—0.06	77.0	80.7	75.1	80.3	81.1	+0.9	87	—	2.1	—	Nil	
SOUTH-WEST BENGAL.	Chhatnagar	Chhatnagar	29.950	29.748	29.849	29.849	—0.06	77.0	80.7	75.1	80.3	81.1	+0.9	87	—	2.1	—	Nil	
	Chhatnagar	Chhatnagar	29.950	29.748	29.849	29.849	—0.06	77.0	80.7	75.1	80.3	81.1	+0.9	87	—	2.1	—	Nil	
	Chhatnagar	Chhatnagar	29.950	29.748	29.849	29.849	—0.06	77.0	80.7	75.1	80.3	81.1	+0.9	87	—	2.1	—	Nil	
SOUTH-WEST BENGAL.	Chhatnagar	Chhatnagar	29.950	29.748	29.849	29.849	—0.06	77.0	80.7	75.1	80.3	81.1	+0.9	87	—	2.1	—	Nil	
	Chhatnagar	Chhatnagar	29.950	29.748	29.849	29.849	—0.06	77.0	80.7	75.1	80.3	81.1	+0.9	87	—	2.1	—	Nil	
	Chhatnagar	Chhatnagar	29.950	29.748	29.849	29.849	—0.06	77.0	80.7	75.1	80.3	81.1	+0.9	87	—	2.1	—	Nil	
SOUTH-WEST BENGAL.	Chhatnagar	Chhatnagar	29.950	29.748	29.849	29.849	—0.06	77.0	80.7	75.1	80.3	81.1	+0.9	87	—	2.1	—	Nil	
	Chhatnagar	Chhatnagar	29.950	29.748	29.849	29.849	—0.06	77.0	80.7	75.1	80.3	81.1	+0.9	87	—	2.1	—	Nil	
	Chhatnagar	Chhatnagar	29.950	29.748	29.849	29.849	—0.06	77.0	80.7	75.1	80.3	81.1	+0.9	87	—	2.1	—	Nil	
SOUTH-WEST BENGAL.	Chhatnagar	Chhatnagar	29.950	29.748	29.849	29.849	—0.06	77.0	80.7	75.1	80.3	81.1	+0.9	87	—	2.1	—	Nil	
	Chhatnagar	Chhatnagar	29.950	29.748	29.849	29.849	—0.06	77.0	80.7	75.1	80.3	81.1	+0.9	87	—	2.1	—	Nil	
	Chhatnagar	Chhatnagar	29.950	29.748	29.849	29.849	—0.06	77.0	80.7	75.1	80.3	81.1	+0.9	87	—	2.1	—	Nil	
SOUTH-WEST BENGAL.	Chhatnagar	Chhatnagar	29.950	29.748	29.849	29.849	—0.06	77.0	80.7	75.1	80.3	81.1	+0.9	87	—	2.1	—	Nil	
	Chhatnagar	Chhatnagar	29.950	29.748															

\* Means of 21 days.

Bengal for the month of December 1889.

DISTRICT OBSERVATIONS.										Representative stations.	DISTRICT.	METEOROLOGICAL DIVISION.
RAINFALL.												
Of month.					Since 15th May 1889.							
Mean of district.	Normal mean.	Variation from mean.	Number of rainy days.	Normal mean number of rainy days.	Mean of district.	Normal mean.	Variation.	Mean number of rainy days.	Normal mean number of rainy days.			
0.35	0.80	-0.51	1.5	1.3	74.58	55.33	+19.25	96.0	82.3	Poorce Gopalpore, Pales Point	Poorce	ORISSA.
0.45	0.60	-0.15	0.9	1.3	66.24	51.63	+14.61	92.9	78.7	Cuttack	Cuttack	
0.02	0.31	-0.29	0.2	0.7	49.70	52.87	-3.17	83.1	70.2	Balsore	Balsore	
0.04	0.34	-0.30	1.0	0.8	54.43	61.94	-7.51	96.5	84.0	Saugor Island	South-West Midnapore and South 24-Pargannas.	SOUTH-WEST BENGAL.
Nil	0.31	-0.31	0.0	0.6	40.20	51.07	-10.87	85.4	71.1	Midnapore	Midnapore	
Nil	0.30	-0.30	0.0	0.8	53.38	51.16	+2.22	91.0	89.0	Calcutta	24-Pargannas, Howrah, and Hooghly.	
Nil	0.19	-0.19	0.0	0.5	43.93	46.32	-2.39	83.5	74.8	Burdwan	Burdwan	SOUTH-WEST BENGAL.
Nil	0.31	-0.31	0.0	0.5	55.58	51.97	+3.61	82.4	81.2	Bankura	Bankura	
Nil	0.15	-0.15	0.0	0.8	51.44	51.17	+0.27	84.5	82.4	Ranigunge	West Burdwan and Boorhoom.	
Nil	0.17	-0.17	0.0	0.6	51.10	50.10	+1.00	81.9	79.0	Berhampore	Moorsheadabad	SOUTH-WEST BENGAL.
Nil	0.18	-0.18	0.0	0.4	51.40	48.70	+2.70	87.2	77.1	Krishnagore	Nuddee	
0.00	0.20	-0.20	0.0	0.6	50.69	52.72	-2.03	85.5	83.6	Jessore	Jessore and Khoosia	
0.42	0.54	-0.12	1.5	0.9	100.02	113.68	-13.66	110.0	106.6	Chittagong	Chittagong	SOUTH BENGAL.
0.69	0.58	+0.10	1.5	1.4	65.13	60.83	+4.30	95.0	113.0	Demagiri	Chittagong Hill Tracts	
0.24	0.40	-0.16	1.0	0.9	77.92	70.39	+7.53	101.9	104.5	Barrisal	Backergunge	
0.26	0.75	-0.49	1.5	1.0	90.29	106.41	-16.12	110.5	106.3	Noakhully	Noakhully	SOUTH BENGAL.
0.02	0.14	-0.12	0.3	0.3	60.02	59.27	+0.75	83.2	83.5	Farradepore	Farradepore	
Nil	0.20	-0.20	0.0	0.8	74.59	69.16	+5.43	105.0	89.8	Dacca	Dacca	SOUTH BENGAL.
0.02	0.34	-0.32	0.3	0.8	55.47	69.60	-14.13	93.1	95.2	Comillah	Tipperah	
Nil	0.22	-0.22	0.0	0.6	87.43	60.93	+26.50	106.2	87.9	Mymensingh	Mymensingh	SOUTH BENGAL.
0.01	0.17	-0.16	0.1	0.6	64.81	56.80	+8.01	101.7	76.7	Bogra	Bogra	
0.08	0.14	-0.06	1.0	0.7	53.07	52.93	+0.14	102.0	79.9	Serajung	Pubna	SOUTH BENGAL.
Nil	0.11	-0.11	0.0	0.5	54.39	53.58	+0.81	89.0	76.1	Rangpore Beau- fean.	Rajshahy	
Nil	0.13	-0.13	0.0	0.6	39.76	53.73	-13.97	74.3	62.2	Maldah	Maldah	SOUTH BENGAL.
Nil	0.19	-0.19	0.0	0.6	57.37	57.42	-0.05	82.9	79.9	Dinapore	Dinapore	
Nil	0.16	-0.16	0.0	0.8	85.16	73.13	+12.03	83.4	76.6	Rungpore	Rungpore	SOUTH BENGAL.
Nil	0.18	-0.18	0.0	0.7	117.15	116.79	+0.36	103.0	93.8	Jalpaigore	Jalpaigore and Gooch Hazar.	
Nil	0.13	-0.13	0.0	1.2	132.75	120.40	+12.35	102.8	111.0	Darjeeling	Darjeeling Hill Tracts.	SOUTH BENGAL.
Nil	0.12	-0.12	0.0	0.5	74.71	58.15	+16.56	75.0	68.9	Purneah	Purneah and North Bhagulpore.	
Nil	0.12	-0.12	0.0	0.5	49.00	42.85	+6.15	68.8	56.2	Mozufferpore	Mozufferpore	SOUTH BENGAL.
Nil	0.11	-0.11	0.0	0.5	51.84	44.08	+7.76	65.7	56.5	Dumung	Dumung	
Nil	0.21	-0.21	0.0	0.7	63.65	49.12	+14.53	64.5	52.8	Mothari	Chumpran	SOUTH BENGAL.
Nil	0.17	-0.17	0.0	0.6	40.15	42.31	-2.16	58.4	60.1	Chupra	Saran	
Nil	0.25	-0.25	0.0	0.7	40.07	39.39	+0.68	68.4	59.1	Dehri Bihar Arrah	Shahabad	SOUTH BENGAL.
Nil	0.20	-0.20	0.0	0.6	37.07	49.07	-12.00	61.8	55.8	Gya	Gya	
Nil	0.16	-0.16	0.0	0.5	43.40	40.75	+2.65	63.0	59.5	Bankipore	Patna	SOUTH BENGAL.
Nil	0.10	-0.10	0.0	0.4	48.43	42.41	+6.02	62.4	60.0	Bhagulpore	South Bhagulpore and Aonghyr.	
Nil	0.16	-0.16	0.0	0.5	54.15	50.42	+3.73	83.1	74.8	Naya Doonka	South Pargannas	SOUTH BENGAL.
Nil	0.21	-0.21	0.0	0.6	47.03	49.84	-2.81	82.9	79.6	Hazaribagh	Hazaribagh	
Nil	0.15	-0.15	0.0	0.9	44.34	44.29	+0.05	82.1	83.3	Ranchi	Lohardugga	SOUTH BENGAL.
Nil	0.12	-0.12	0.0	0.7	38.63	40.44	-1.81	96.5	82.1		Manbhum	
Nil	0.37	-0.37	0.0	1.3	48.76	59.65	-10.89	100.0	100.5	Chyowassa	Singbroom	SOUTH BENGAL.
										Silchar		
										Silchar		

### Table of Rainfall recorded at Station

[illegible]



21	22	23	24	25	26	27	28	29	30	31	Number of rainy days.	Average number of rainy days.	Total rainfall for the month.	Average rainfall for the month.	Heaviest rainfall.	Total rainfall from 1st January 1889 up to 31st Dec. 1889.	Average rainfall from 1st January up to 31st December.	Station.	District.	Meteorological division.
...	...	...	0'05	0'04	0'00	...	...	...	...	...	3	1'6	0'21	0'73	0'00	80'80	54'68	Pooros Khurdah.	Pooros	Orissa.
...	...	...	0'14	0'14	0'20	...	...	...	...	...	1	1'7	0'14	0'29	0'16	80'85	55'85	Bampur		
...	...	...	0'05	0'05	...	...	...	...	...	...	1	1'3	1'04	0'64	0'65	80'83	55'44	Pales Pott.		
...	...	...	...	...	...	...	...	...	...	...	...	?	...	?	...	?	?	Gop. Pipli.		
...	...	...	...	...	...	...	...	...	...	...	...	1'0	...	0'30	...	56'40	51'35	Jagatsingapore.	Cuttack.	
...	...	...	...	...	...	...	...	...	...	...	...	1'2	...	0'81	...	51'03	50'31	Banki.		
...	...	...	...	...	...	...	...	...	...	...	...	1'4	...	0'64	...	70'37	58'08	Cuttack.		
...	...	...	...	...	0'36	...	...	...	...	...	...	1'0	...	0'28	0'45	74'18	57'10	Kondrapara.		
...	...	...	...	...	...	...	...	...	...	...	...	1'0	...	...	...	59'63	49'00	Jajpur.		
...	...	...	...	...	...	...	...	...	...	...	...	?	...	?	...	61'28	?	Dharmala.		
...	...	...	...	...	...	...	...	...	...	...	...	?	...	?	...	76'07	?	Balipore.		
...	...	...	...	...	0'15	...	...	...	...	...	1	0'9	0'13	0'58	0'12	87'54	54'50	Chandball.	Balasor.	
...	...	...	...	...	...	...	...	...	...	...	...	0'7	...	...	...	60'43	55'53	Bhadrak.		
...	...	...	...	...	...	...	...	...	...	...	...	0'5	...	...	...	40'04	50'88	Soyat.		
...	...	...	...	...	...	...	...	...	...	...	...	0'9	...	...	...	50'07	55'74	Balasore.		
...	...	...	...	...	...	...	...	...	...	...	...	0'5	...	...	...	40'78	57'30	Jajpur.		
...	...	...	...	...	...	...	...	...	...	...	...	0'8	...	...	...	60'51	60'17	Baripoda.		
...	...	...	...	...	0'05	...	...	...	...	...	1	0'7	0'06	0'34	0'05	57'07	63'03	Contal.	Midnapore.	South-West Bengal.
...	...	...	...	...	0'03	...	...	...	...	...	1	1'1	0'01	0'19	0'3	58'25	74'21	Saugor Island.		
...	...	...	...	...	...	...	...	...	...	...	...	0'5	...	...	...	52'50	59'45	Tumlook.		
...	...	...	...	...	...	...	...	...	...	...	...	0'8	...	...	...	65'08	59'53	Madnapore.		
...	...	...	...	...	...	...	...	...	...	...	...	0'8	...	...	...	46'59	52'78	Chital.		
...	...	...	...	...	...	...	...	...	...	...	...	?	...	...	...	02'07	?	Akershaty.		
...	...	...	...	...	...	...	...	...	...	...	...	?	...	...	...	07'05	?	Hera.		
...	...	...	...	...	...	...	...	...	...	...	...	?	...	...	...	57'09	?	Rhayansapore.		
...	...	...	...	...	...	...	...	...	...	...	...	?	...	...	...	47'77	57'46	Garbeta.		
...	...	...	...	...	0'01	...	...	...	...	...	1	0'7	0'04	0'27	0'04	68'50	66'86	Diamond Har-	24-Pargunnah.	
...	...	...	...	...	0'17	...	...	...	...	...	1	?	0'17	?	0'17	60'83	?	Canning Town.		
...	...	...	...	...	...	...	...	...	...	...	...	0'9	...	...	...	59'23	65'50	Alipore Jail.		
...	...	...	...	...	...	...	...	...	...	...	...	0'6	...	...	...	64'53	60'83	Barrackpore.		

Table of Rainfall recorded at Stations

Metereological division.	Station.	Station.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
EAST BENGAL —rained.	Bachergunge...	Patnakhally	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Harishchpur	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Harishchpur	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Harishchpur	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Noakhally	Noakhally	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Fennel	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Harishchpur	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Kampan	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Faridpur...	Nadarpore	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Faridpur	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Goalundo	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Goalundo	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Dacca	Munshingunge	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Dacca	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Narainchunge	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Jogdhpore	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Hill Tipperah	Agartala	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Tipperah	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Tipperah	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Tipperah	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Mymensingh	Comilla	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Comilla	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Comilla	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Comilla	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
WEST BENGAL	Pabna	Pabna	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Pabna	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Pabna	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Pabna	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Razre	Sherpore	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Sherpore	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Bajshabye	Beaulah	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Natore	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Nanpura	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Islipore	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Malda	Malda	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	(Machal)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Gopal	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Maharaj	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Maugpore	Mohadhpore	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Maugpore	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Maugpore	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Maugpore	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Rangpore	Rangpore	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Rangpore	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Rangpore	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Rangpore	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Islipore	Islipore	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Islipore	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Islipore	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Islipore	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cooch Behar.	Cooch Behar	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Cooch Behar	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Cooch Behar	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Cooch Behar	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Darjeeling Hill	Darjeeling	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Darjeeling	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Darjeeling	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Darjeeling	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
North Bengal	Purneah	Purneah	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Purneah	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Purneah	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Purneah	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
North Bengal	Purneah	Purneah	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Purneah	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Purneah	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
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### Table of Rainfall recorded at Stations

Meteorological division.	District.	Station.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
NORTH BENGAL —continued.	Darbhanga	Talpoore	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Durhanga	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Madhubani	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Bakura	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Mounsurpore	Sitamarhi	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Mounsurpore	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Naipore	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Makua	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Chumpran	Sakur	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Papri	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Mothari	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Hettah	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Saran	Ragpaka	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
	Barhara	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
	Gopalnagar	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
	Sewan	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
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		Buxar	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Deghee	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Shubooah	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Gya	Sausaram	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Arrah	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Mohamud	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Aurangabad	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Patna	Gya	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Nowadah	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Jehanabad	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Arwal	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Monghyr	Daudnagar	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
	Sheerphat	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
	Rajauli	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
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01	02	03	04	05	06	07	08	09	10	11	Number of rainy days.	Average number of rainy days.	Total rainfall for the month.	Average rainfall for the month.	Heaviest rainfall during the month.	Total rainfall from 1st January 1880 up to 31st Dec. 1880.	Average rainfall from 1st January up to 31st December.	Station.	District.	Metereological division.
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...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Madhubani.		
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Bahera.		
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**SUMMARY OF THE RAINFALL AND METEOROLOGICAL OBSERVATIONS  
TAKEN IN BENGAL, AND OF THE METEOROLOGICAL OBSERVATIONS  
TAKEN IN ASSAM, DURING THE MONTH OF DECEMBER 1889.**

The normal meteorology in December of Bengal and Assam is usually very simple, and the north-east monsoon conditions are almost always present in a well-marked degree. Temperature generally steadily diminishes, and is decidedly low, while pressure increases and becomes very high; humidity remains low, and there is an almost complete absence of cloud. Rainfall is also usually entirely absent from the province, except when the normal conditions become almost reversed by the occurrence of barometric disturbances which appear over Northern India, and drift in a southerly or south-easterly direction. When such depressions pass through the province, the sky becomes heavily clouded, temperature usually increases, particularly at night, while pressure falls with the advance of the depression. If the depression is at all considerable, general light rain will also usually fall. It is from such actions as these that practically the whole of the rainfall of December in Bengal is in most years received, and from the nature of the case the occurrence of any rainfall at all in this month is uncertain, while its amount is always liable to considerable variation. A second class of disturbances may occur in the form of cyclonic storms in the Bay; but usually in December such storms are generated in the extreme south of the Bay, and they are rarely sufficiently large and intense to affect the weather in Bengal to any considerable extent. If, however, such a storm should happen to advance in a north-westerly direction into the northern half of the Bay, then again the normal weather conditions in Bengal will be practically reversed and will become similar to those described as occurring during the passage of the land-formed storms. In this case, however, the rainfall as a rule will be entirely confined to the southern districts of Bengal, and will not penetrate at all into such districts as Behar.

The average rainfall in Bengal is therefore small in all districts; it is slightly over half an inch in Orissa, about equal to a third of an inch in Chutia Nagpur and East Bengal, and to about a fifth of an inch in South-West Bengal and South Behar; while in North Bengal and North Behar the average fall is even less than a fifth of an inch.

*Meteorology of the month.*—The chief features in the meteorology of December have been—

- 1st.—The complete absence of storms of the usual cold-weather type which form in Northern India and advance in a south-easterly direction.
- 2nd.—The occurrence of two cyclonic storms in the Bay: the first more or less of the usual character, which formed in the south of the Bay and advanced in a westerly direction across the extreme south of the peninsula, while the second was a most abnormal storm. It occurred very much later in the year than cyclonic storms have usually hitherto been formed. It was also formed rather further north than usual, and finally drifted in a north-westerly direction towards the North Madras coast. It was also a very severe storm.
- 3rd.—The pressures recorded in Bengal were in all cases below the normal, the usual defect averaging about two or three-hundredths of an inch; the defects were generally greatest over an area represented by such stations as Bankipur, Bhagulpur, Burdwan, and Berhampur on the west and Dhubri on the east, where the defect equalled about four-hundredths of an inch.
- 4th.—Temperature was in excess for the greater part of the month, and the mean temperature for the province of Bengal was about one and-a-half degrees in excess of the normal, while in Assam the excess was larger than two degrees.
- 5th.—The air was decidedly more moist than usual, the excess in the percentage of humidity ranging up to seventeen per cent. at Jessore.
- 6th.—Cloud proportion was above the normal in the southern districts and below it over the northern half of the province.
- 7th.—As there were no land-formed or cold-weather storms, there was no general rainfall over the province; but owing to the nature of the second cyclonic storm in the Bay referred to above, moderate showers were received in some of the southern districts of the province.

The first half of December was a period during which north-east monsoon conditions were present in Bengal and over the greater part of the Bay in fairly well pronounced degree. In Bengal itself temperature and humidity were low and pressure rather high, while a steady northerly wind current blew over the whole province, the skies were almost cloudless, and rainfall was entirely absent. In the Bay also fine weather was reported during the whole of this period, and there was an almost complete absence of rain along the Madras coast, though at this period rain generally occurs here. On the 16th of December, however, conditions commenced to change in the south of the Bay, pressure began to fall along the South Coromandel coast, while elsewhere it was rising, and winds along the Burma coast showed indraught towards a disturbed area in the south of the Bay. It is probable on this day a small cyclonic storm had formed in the extreme south of the centre of the Bay. On the morning of the 17th it had advanced in a westerly direction, and the centre was then probably to the north-east of Trincomalee and east-south-east of Negapatam. On the morning of the 18th the storm had commenced to cross the south of the peninsula, and the centre was at 8 a.m. a short distance to the south-south-west of Negapatam. It afterwards apparently entirely crossed the peninsula. It was a storm in which the winds were of only moderate violence, and squally weather only obtained along the Coromandel coast, but a heavy wave of

rainfall was brought by the storm and gave to the Madras coast and the south of the peninsula general and rather heavy rain, which lasted for several days. The storm, however, was too far distant from Bengal to cause any considerable alteration in the weather, and up to about the 20th of the month the conditions in Bengal remained those of the ordinary north-east monsoon, as previously described. At this time a severe storm was formed in the Bay, the description of which, as given in the weekly report, is as follows:—

On December 21st conditions in Bengal remained unaltered, but skies clouded up heavily over the south of Burma. Drizzling rain commenced over this area, and pressure fell slightly at Diamond Island, while elsewhere it was generally rising. Winds also at the South Burma stations commenced to show distinct indraught towards the south of the Bay and at Diamond Island, instead of the light winds usual at this season, winds had increased to almost a gale. On this day, therefore, it is clear that weather had become very disturbed over the south of the Bay, and it is probable that a cyclonic storm had commenced to form. On the 22nd the area of stormy weather was still quite in the south of the Bay and probably about Longitude 88° E. The storm, therefore, appeared on this day to have drifted in a westerly direction, and probably the centre of the storm was not further north than Negapatam. At this time all the indications appeared to point to the probability that the storm would advance across the extreme south of the peninsula, or even across the north of Ceylon. On the morning of the 23rd, the storm was probably to the east-north-east of Negapatam and at some distance from land, and it was moving slowly in a north-westerly direction. On the 24th it had again advanced in a north-westerly direction, and its centre was probably to the east of Nellore or east-north-east of Madras; while on the morning of the 25th it had come much nearer the land, and its centre was to the south-east of Masulipatam. Even on the morning of the 25th it was apparent that the storm had ceased to intensify, but it was on this date a rather severe storm; but by the morning of the 26th, and particularly from midnight of the 25th, the storm had commenced to fill up rather rapidly. On this date it had become only a barometric depression, but it was accompanied by fairly strong winds, and the position of its centre was decidedly nearer the land than on the previous day, and it was perhaps even a little to the south-west of its previous position. On the morning of the 27th the depression had quite passed inland, the centre crossing the coast apparently between Masulipatam and Nellore during the afternoon or evening of the 26th. The storm in its progress was accompanied by only a moderate barometric depression as indicated by the readings at the coast stations, but it will be observed that the storm centre was at no time very near to any meteorological station while it existed as a severe storm. Decidedly low pressures, however, appear to have been experienced by the vessel *Java* which was involved in the storm. The strength of the winds in the northern half of the storm was decidedly great, and for two days a gale of wind was blowing at some of the ports on the west coast. Certain observations taken on board the S.S. *Java*, which was involved in the storm, also show that hurricane winds and very severe weather accompanied the northern half of the storm, but winds in the southern half appear to have been comparatively feeble. The rainfall in connection with the storm at the land stations was also only moderate.

As is usually the case, directly a rather severe storm is formed in the Bay, weather conditions commenced to change in Bengal. Temperature at first began to rise slowly, but from about the 23rd or 24th, when the skies had clouded over quickly, the night temperatures rose very rapidly and became very high. The storm in its north-westerly advance apparently also caused a wave of moist winds from the sea to advance over Bengal, and on about the 24th at many stations the sky was almost overcast, while humidity as well as temperature was high. In Orissa and South-East Bengal, and in parts of South and even North Bengal, so much moisture was thus brought up that light showers commenced to fall at a few stations, and dull and rather gloomy weather obtained for some days. At this period, therefore, the general conditions were almost the reverse of normal north-east monsoon weather, but with the gradual breaking up of the storm on the 26th, and with its disappearance inland on the 27th, conditions had begun slowly to improve again in Bengal on the 26th and 27th of the month, and at the close of the month again fine weather with almost cloudless skies, rather rapidly reducing temperature with fairly low humidity, an increasing pressure, and complete absence of rain again obtained; or, in other words, again normal cold-weather conditions had set in over the province.

**Pressure.**—The variations of pressure during the month were not of any great importance. The mean pressure at the commencement of December varied from a twentieth to a tenth of an inch below the normal. During the second week of the month, when the cold-weather conditions were present rather strongly, the mean pressure became almost normal, and this continued to be the case up till the last week, when the conditions generally became influenced by the existence of the severe storm in the Bay, when pressure was again in distinct defect of the normal. For the whole month, therefore, the mean pressure has been generally below the normal by amounts varying from two to four-hundredths of an inch. The largest defects were generally registered at Bhagalpur, Bankipur, Burdwan, Bankoora, and Berhampore, in the western districts of the province, and at Dhubri in Assam, and at Chittagong in the eastern districts; but even in these cases the defects do not exceed four-hundredths of an inch.

**Temperature.**—The temperature variations during the month have been rather large. At the commencement the mean temperature was nearly normal; for the second week a general

defect of about a degree was registered, but in South-West Bengal there was a defect of about three degrees. In the third week the mean temperature had become almost normal, but in the fourth week, owing to the influence of the disturbed conditions brought about by the storm in the Bay, a very rapid increase in the night temperatures took place, and temperature generally became rather largely in excess of the normal; the excess in South-West and East Bengal and in South Behar averaging from five to six degrees. For the whole month, therefore, the average mean temperature has been above the normal, the excess ranging from about one degree in Orissa and South-West Bengal to nearly two degrees in East and North Bengal, while in Assam the excess is larger than two degrees. The general variation of temperature from the normal during the month is best shown by the following table, which gives the variations of the average maximum, minimum and mean temperatures at nine typical stations in different districts in the province from the normal values, week by week, throughout the month:—

STATIONS.	WEEK ENDING 6TH DECEMBER 1889.			WEEK ENDING 13TH DECEMBER 1889.			WEEK ENDING 20TH DECEMBER 1889.			WEEK ENDING 27TH DECEMBER 1889.		
	Variation of actual mean maximum temperature of week from normal mean.	Variation of actual mean minimum temperature of week from normal mean.	Variation of actual mean daily temperature of week from normal mean.	Variation of actual mean maximum temperature of week from normal mean.	Variation of actual mean minimum temperature of week from normal mean.	Variation of actual mean daily temperature of week from normal mean.	Variation of actual mean maximum temperature of week from normal mean.	Variation of actual mean minimum temperature of week from normal mean.	Variation of actual mean daily temperature of week from normal mean.	Variation of actual mean maximum temperature of week from normal mean.	Variation of actual mean minimum temperature of week from normal mean.	Variation of actual mean daily temperature of week from normal mean.
Cuttack ...	-2.5	-0.6	-0.9	-0.5	-1.7	-1.2	-1.8	-2.2	-2.0	+1.2	+7.4	+4.5
Calcutta ...	-0.9	-1.3	-1.1	-1.5	-4.2	-2.9	-0.9	-1.7	-1.3	+2.0	+2.9	+5.5
Dacca ...	-1.7	+1.3	-0.3	-1.0	-2.6	-2.1	-0.2	+0.9	+0.4	+2.9	+6.3	+5.1
Burdwan ...	-0.9	+0.1	-0.4	-1.6	-3.4	-2.5	-0.9	-1.2	-1.1	+3.0	+2.3	+6.0
Patna ...	+0.9	+0.4	+0.6	+0.2	-1.9	-0.9	+0.2	-0.6	-0.3	+4.0	+5.0	+4.6
Gya ...	+0.6	+1.2	+1.0	+0.8	+1.2	+0.8	+0.2	-0.9	-0.4	+3.2	+3.9	+3.8
Purneah ...	-1.1	+1.4	+0.1	-2.2	-1.3	-2.1	-1.6	+2.5	+0.4	+2.2	+2.0	+2.6
Hazratbagh ...	+1.6	-0.4	+0.6	+0.4	-2.0	-0.6	+1.0	-0.6	+0.2	+3.2	+4.8	+2.9
Darjeeling ...	+2.7	+2.8	+2.7	+2.4	-0.3	+1.1	+2.4	+1.9	+2.6	+7.0	+1.7	+4.6

**Rainfall.**—As previously stated, rain occurred towards the end of the month in some of the southern districts in connection with a wave of moist winds brought up by the storm in the Bay. The only districts, however, which received any rainfall of importance were the Pooree district in Orissa and the Chittagong, Chittagong Hill Tracts, Backergunge, and Noakholly districts of East Bengal. A few showers were also received in the following districts:—Cuttack, Khoolna, and Pubna. The falls in East Bengal generally averaged 0.15 inch and in Orissa 0.12 inch, but elsewhere they were of no importance.

The following table gives in a condensed form the summary of the rainfall information in Bengal for the whole year. It gives a comparison between the actual monthly and total rainfall of the year, with the normal values in each of the seven meteorological divisions of Bengal; the actual falls being expressed as percentages of the normal amounts. From these figures it will be seen that all the districts, except Chutia Nagpur, have received good falls during the year, while in Chutia Nagpur there has been a defect of 17 per cent. :—

METEOROLOGICAL DIVISIONS.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Actual rainfall of the year 1889 ex- pressed as a per- centage of the normal fall for the period.
Orissa ...	16	120	18	26	76	123	90	117	55	150	335	22	111
South-West Bengal ...	162	122	35	62	55	140	84	71	90	112	1,523	5	98
East Bengal ...	79	81	20	80	67	113	92	94	89	133	385	42	93
North Bengal ...	553	170	10	46	40	126	120	85	117	44	713	6	101
North Behar ...	480	270	23	40	43	162	130	87	147	8	400	Nil	118
South Behar ...	339	291	73	14	57	143	94	94	114	40	365	Nil	104
Chutia Nagpur ...	121	122	47	130	45	122	77	76	72	71	430	Nil	83

The following table gives the summary of the temperature and rainfall data of each of the seven meteorological divisions of the province for the month of December 1889 :—

METEOROLOGICAL DIVISIONS.	TEMPERATURE.						RAINFALL.							
	Highest observed during month.	Lowest observed during month.	Averages for month.			Average mean of month above or below normal mean of month.	Of month.*			Rainy days.			Since 15th May 1889.	
			Of highest of each day.	Of lowest of each day.	Of mean for each day.		Average.	Normal average.	Variation.	Average number in month.	Normal average number in month.	Variation.	Average.	Normal average.
Orissa	84.8°	80.6°	79.3°	88.7°	69.0°	+0.9°	0.13	0.25	-0.13	0.6	1.1	-0.5	62.01	55.98
South-West Bengal	82.1	48.4	77.4	80.8	67.1	+0.8	0.01	0.31	-0.30	0.2	.06	0.4	58.87	51.40
East Bengal	84.0	53.4	77.9	84.8	68.2	+1.7	0.18	0.26	-0.08	0.6	0.8	-0.2	75.83	73.73
North Bengal	81.4°	48.1°	77.0°	83.1°	66.5°	+1.8°	0.01	0.17	-0.16	0.1	0.6	-0.5	73.15	70.00
North Bihar	79.9	44.9	75.8	82.2	64.0	+1.8	Nil	0.14	-0.14	0.0	0.5	-0.5	67.00	45.19
South Bihar	81.8	44.6	70.3	81.4	63.9	+1.6	Nil	0.30	-0.20	0.0	0.5	-0.5	44.16	43.30
Chutia Nagpur	77.0°	43.7°	73.1°	80.0°	61.6°	+1.1°	Nil	0.34	-0.34	0.0	0.8	-0.8	48.00	48.01
Assam	84.8	45.0	77.0	86.7	68.9	+2.2								

\* Pooree, Julpigoree, and Chyebann not included.

METEOROLOGICAL OFFICE, BENGAL,

The 14th January 1890.

A. PEDLER,

Meteorological Reporter to the Govt. of Bengal.

## Meteorological Report of the Province of Bengal

METEOROLOGICAL DIVISION.		STATION OBSERVATIONS.															
		DISTRICT	Representative station.	AIR PRESSURE.			WIND.		TEMPERATURE.								
				Mean barometric height, 9 A.M.	Mean reduced to sea-level.	Variation from mean.	Prevailing direction.	Mean wind velocity.	Highest during week.	Date.	Lowest during week.	Date.	Mean maximum temperature.	Mean minimum temperature of week.	Mean daily temperature of week.	Variation from normal mean of week.	Mean, 9 A.M., temperature.
ORISSA.	Pooree	Pooree	30.025	30.010	-.015	N	151	81.7	4th Jan.	54.4	4 & 9 Jan.	70.6	57.3	64.1	+0.0	64.1	
	Pooree	False Point	30.025	30.010	-.015	NNW	120	80.6	7th Jan.	53.0	4th Jan.	70.0	57.3	64.1	+0.0	64.1	
	Cuttack	Cuttack	30.024	30.009	-.015	Calm	21	83.3	7th Jan.	53.0	4th Jan.	69.1	56.8	62.9	-1.1	62.9	
	Balasore	Balasore	30.025	30.010	-.015	NNW	121.0	81.3	7th Jan.	53.5	4th Jan.	70.5	55.4	62.7	+0.8	61.7	
NORTH-WEST BENGAL.	South-West Midnapore	Naugor Island	30.023	30.010	-.013	North-westerly.	147	77.2	7th Jan.	57.0	10th Jan.	73.3	59.9	66.6	+0.6	64.6	
	Midnapore	Midnapore	30.025	30.010	-.015	N	31.7	82.3	8th Jan.	54.2	10th Jan.	80.2	56.8	68.5	+2.7	61.5	
	24-Pergunnahs	Calcutta	30.025	30.010	-.015	N	51	78.3	9th Jan.	53.3	9th Jan.	76.0	57.3	67.0	+1.8	61.2	
	Hurdwan	Hurdwan	30.025	30.010	-.015	North-westerly.	30.9	80.5	8th Jan.	53.7	8th Jan.	76.8	57.3	65.1	+3.4	60.5	
BANKURA.	Bankura	Bankura	30.025	30.010	-.015	W	50	80.1	8th Jan.	53.8	8th Jan.	75.3	56.0	65.6	+2.3	60.4	
	Baranagar	Baranagar	30.025	30.010	-.015	W	45.4	80.7	8th Jan.	54.4	9th Jan.	76.1	56.8	66.4	+2.7	60.3	
	Meerutdabad	Meerutdabad	30.025	30.010	-.015	NW	40.2	79.1	7th Jan.	53.7	9th Jan.	77.3	57.0	67.2	+2.6	60.3	
	Nuddea	Nuddea	30.025	30.010	-.015	WNW	50.0	80.3	7th Jan.	53.1	9th Jan.	75.9	55.1	65.0	+3.4	61.2	
JESSORE.	Jessore	Jessore	30.025	30.010	-.015	Calm	22.9	79.7	7th Jan.	57.0	9th Jan.	76.7	55.1	65.9	+4.1	61.2	
	Chittagong	Chittagong	30.025	30.010	-.015	Calm & W	28.6	80.1	8th Jan.	53.6	7th Jan.	79.2	56.2	67.7	+4.0	62.3	
	Chittagong Hill Tracts	Demagiri	30.025	30.010	-.015	Calm	26.2	79.3	9th Jan.	54.1	4th Jan.	77.7	59.0	68.3	+4.1	64.3	
	Hackerrunge	Hackerrunge	30.025	30.010	-.015	Variable	53.0	79.0	7th & 10th Jan.	56.0	8th Jan.	77.9	57.0	67.0	—	60.3	
NORTH BENGAL.	Noakholly	Noakholly	30.025	30.010	-.015	Calm	39	74.4	4, 5, 8, 10 Jan.	57.0	9th Jan.	73.7	58.3	66.0	+3.8	61.3	
	Farrukpore	Farrukpore	30.025	30.010	-.015	Variable	62.0	81.1	8th Jan.	55.8	9th Jan.	79.5	58.4	69.0	+3.1	62.1	
	Dacca	Dacca	30.025	30.010	-.015	NE	3.7	83.0	8th Jan.	56.4	8th Jan.	76.0	56.3	66.1	+4.0	64.3	
	Tipperah	Tipperah	30.025	30.010	-.015	ENE	55.0	76.0	3th Jan.	56.5	10th Jan.	75.3	51.3	63.4	+0.3	62.0	
NORTH BENGAL.	Mymensingh	Mymensingh	30.025	30.010	-.015	Calm	24.0	80.8	8th Jan.	56.5	4th Jan.	77.6	56.2	67.0	+2.1	60.9	
	Roosa	Roosa	30.025	30.010	-.015	N-E	25.4	81.4	8th Jan.	56.0	4th Jan.	76.3	56.7	67.5	+4.3	61.3	
	Barisal	Barisal	30.025	30.010	-.015	N	43.7	78.9	5th Jan.	56.0	4th Jan.	77.2	56.7	66.9	+0.3	60.1	
	Maldah	Maldah	30.025	30.010	-.015	NW	61.0	79.0	9th Jan.	56.0	9th Jan.	76.8	55.7	67.3	—	63.1	
NORTH BENGAL.	Dinapore	Dinapore	30.025	30.010	-.015	NE	25	80.1	6th Jan.	57.1	4th Jan.	77.8	56.1	67.0	+4.0	61.3	
	Rangpur	Rangpur	30.025	30.010	-.015	E	28	80.4	5th Jan.	56.7	4th Jan.	77.0	55.9	66.6	+0.0	61.7	
	Jalpaiguri	Jalpaiguri	30.025	30.010	-.015	North-westerly.	21.5	79.1	8th Jan.	56.1	4th Jan.	76.7	56.7	67.0	—	60.1	
	Darjeeling Hill Tracts	Darjeeling	30.025	30.010	-.015	WSW	92.1	54.7	4th & 5th Jan.	53.0	4th Jan.	63.4	57.7	60.5	+4.7	60.9	
NORTH BENGAL.	Purneah	Purneah	30.025	30.010	-.015	Calm	26.4	77.7	5th Jan.	56.0	4th Jan.	74.3	52.2	63.2	+3.3	60.3	
	Moanfastpur	Moanfastpur	30.025	30.010	-.015	WNW	34	78.9	6th Jan.	54.0	9th Jan.	76.0	55.8	65.1	+4.3	60.1	
	Durbinpore	Durbinpore	30.025	30.010	-.015	Variable	76.2	79.1	7th Jan.	54.0	9th Jan.	76.0	55.8	65.1	+4.3	60.1	
	Chumpra	Chumpra	30.025	30.010	-.015	Variable	76.2	79.1	7th Jan.	54.0	9th Jan.	76.0	55.8	65.1	+4.3	60.1	
NORTH BENGAL.	Shahabad	Shahabad	30.025	30.010	-.015	SW	116.6	77.9	9th Jan.	59.0	9, 10 Jan.	76.0	52.4	64.7	+4.0	60.7	
	Shahabad	Shahabad	30.025	30.010	-.015	WNW	47.2	78.9	8th Jan.	59.3	9th Jan.	76.1	51.7	63.9	+4.0	60.6	
	Gya	Gya	30.025	30.010	-.015	N	103.0	77.0	7th Jan.	59.4	9th Jan.	76.0	52.7	64.7	+1.7	60.6	
	Patna	Patna	30.025	30.010	-.015	SW	19.5	77.0	8th Jan.	59.2	9th Jan.	76.0	53.5	64.0	+3.9	60.7	
NORTH BENGAL.	South Bhagalpore	South Bhagalpore	30.025	30.010	-.015	Calm & WNW	45	79.1	8th Jan.	53.0	9th Jan.	76.7	54.6	63.6	+4.4	60.7	
	South Bhagalpore	South Bhagalpore	30.025	30.010	-.015	WNW	48.3	78.6	8th Jan.	51.9	9th Jan.	76.0	54.8	63.4	—	60.1	
	South Bhagalpore	South Bhagalpore	30.025	30.010	-.015	Variable	117.0	74.3	10th Jan.	59.8	10th Jan.	73.0	51.9	63.4	+1.7	60.7	
	South Bhagalpore	South Bhagalpore	30.025	30.010	-.015	Calm	98.4	76.0	8th Jan.	57.9	8th Jan.	76.1	50.9	62.0	+1.0	60.6	
NORTH BENGAL.	South Bhagalpore	South Bhagalpore	30.025	30.010	-.015	SW	22.6	81.6	8th Jan.	49.0	10th Jan.	76.9	55.1	66.0	—	60.3	

\* Means of six days. \* Means of five days.

Explanation.—Summary.—The normal means of air pressure and temperature are the arithmetic averages of means of the readings during the same period for the last five years of the observations expressed in percentages, saturated air being presented by 100. A clear sky is denoted by 0 and an overcast sky by 10. The number of rainy days is denoted by the number of days in which the rainfall is more than 0.01 inch. The number of days in which the rainfall is more than 0.01 inch is denoted by the number of days in which the rainfall is more than 0.01 inch. A rainy day is one on which at least hundredth of an inch fell.



for the week ending Friday, the 10th of January 1890.

DISTRICT OBSERVATIONS.														Representative station.	District.	METEOROLOGICAL DIVISION.
Average humidity at 5 A.M.	Average cloud amount at 5 A.M. for week.	Rainfall of week at observing station.	OF WEEK.		RAINFALL.						Average number of rainy days.	Normal number of rainy days.				
			Mean for district.	Normal mean.	Since 1st of month.			Since 15th May 1889.								
					Mean for district.	Normal mean.	Variation.	Mean for district.	Normal mean.	Variation.						
85	0.0	Nil	Nil	0.01	Nil	0.02	-0.02	75.85	55.19	+19.66	0.0	0.1	Poorer	Poorer	Orissa.	
77	0.1	Nil	Nil	0.04	Nil	0.04	-0.04	60.24	51.59	+8.65	0.0	0.1	Cuttack	Cuttack		
66	1.0	Nil	Nil	0.05	Nil	0.10	-0.10	40.80	52.70	-11.90	0.0	0.1	Balasore	Balasore		
78	1.4	Nil	Nil	0.04	Nil	0.04	-0.04	60.24	51.59	+8.65	0.0	0.1	Cuttack	Cuttack	Orissa.	
83	0	Nil	Nil	0.05	Nil	0.10	-0.10	40.80	52.70	-11.90	0.0	0.1	Balasore	Balasore		
88	0.1	Nil	Nil	0.06	Nil	0.09	-0.09	54.43	62.10	-7.67	0.0	0.1	Maugor Island	South-West Midnapore		
79	0.0	Nil	Nil	0.09	Nil	0.14	-0.14	40.29	51.23	-10.94	0.0	0.2	Midnapore	South-East Midnapore	Orissa.	
82	0.9	Nil	Nil	0.08	Nil	0.10	-0.10	53.34	51.33	+2.01	0.0	0.2	Calcutta	Midnapore		
76	1.4	Nil	Nil	0.07	Nil	0.07	-0.07	43.83	46.38	-2.55	0.0	0.2	Calcutta	24-Pergunnahs		
82	0.9	Nil	Nil	0.07	Nil	0.07	-0.07	55.85	52.34	+3.51	0.0	0.2	Hurdwan	Hurdwan	South-West Bengal.	
86	1.7	Nil	Nil	0.10	Nil	0.10	-0.10	52.44	51.29	+1.15	0.0	0.2	Bankura	Bankura		
85	0	Nil	Nil	0.10	Nil	0.10	-0.10	51.95	50.02	+1.93	0.0	0.2	Ranagunge	West Hurdwan		
88	0.1	Nil	Nil	0.05	Nil	0.08	-0.08	51.40	48.97	+2.43	0.0	0.2	Herhampore	Moorsheadabad	South-West Bengal.	
88	0.7	Nil	Nil	0.07	Nil	0.11	-0.11	53.80	48.78	+5.02	0.0	0.2	Krishnagur	Nuddoe		
83	2.1	Nil	Nil	0.08	Nil	0.08	-0.08	100.92	113.10	-12.18	0.0	0.2	Jessore	Jessore		
83	0.3	Nil	Nil	0.13	Nil	0.15	-0.15	60.13	60.78	-0.65	0.0	0.3	Chittagong	Khoulina	Orissa.	
83	0.3	Nil	Nil	0.10	Nil	0.24	-0.24	7.82	70.91	+63.09	0.0	0.3	Chittagong	Chittagong		
91	0	Nil	Nil	0.12	Nil	0.27	-0.27	80.29	106.24	-25.95	0.0	0.3	Barisal	Chittagong Hill Tracts		
96	1.4	Nil	Nil	0.07	Nil	0.10	-0.10	60.92	55.31	+5.61	0.0	0.2	Noakholly	Backergunge	East Bengal.	
93	1.4	Nil	Nil	0.08	Nil	0.10	-0.10	74.39	60.95	+13.44	0.0	0.2	Faridpur	Noakholly		
90	1.0	Nil	Nil	0.16	Nil	0.21	-0.21	55.45	69.63	-14.18	0.0	0.3	Dacca	Faridpur		
96	2.6	Nil	Nil	0.05	Nil	0.02	-0.02	87.00	67.30	+19.70	0.0	0.3	Comillah	Tipperah	East Bengal.	
90	0	Nil	Nil	0.05	Nil	0.06	-0.06	64.81	50.39	+14.42	0.0	0.2	Mymensingh	Mymensingh		
96	0.4	Nil	Nil	0.06	Nil	0.07	-0.07	55.05	62.94	-7.89	0.0	0.2	Bogra	Mymensingh		
90	0	Nil	Nil	0.16	Nil	0.16	-0.16	54.30	53.41	+0.89	0.0	0.2	Serajunge	Patna	North Bengal.	
83	1.0	Nil	Nil	0.09	Nil	0.09	-0.09	50.76	53.84	-3.08	0.0	0.2	Rampore	Rajshahye		
80	1.1	Nil	Nil	0.05	Nil	0.05	-0.05	57.37	56.42	+0.95	0.0	0.2	Maldah	Maldah		
83	0.0	Nil	Nil	0.02	Nil	0.09	-0.09	85.15	73.81	+11.34	0.0	0.2	Dinapore	Dinapore	North Bengal.	
80	2.7	0.00	0.00	0.02	Nil	0.02	+0.04	117.19	111.22	+5.97	0.0	0.1	Rungpore	Rungpore		
84	5.4	0.10	0.02	0.08	0.02	0.02	+0.03	132.97	120.37	+12.60	1.3	0.3	Julpore	Julpore		
94	0.4	Nil	Nil	0.00	Nil	0.07	-0.07	74.71	58.21	+16.50	0.0	0.2	Darjeeling	Darjeeling Hill Tract	North Bengal.	
80	0	Nil	Nil	0.10	Nil	0.12	-0.12	48.08	42.73	+5.35	0.0	0.2	Purneah	Purneah		
90	0	Nil	Nil	0.00	Nil	0.12	-0.12	51.81	44.16	+7.65	0.0	0.2	Mozufferpore	North Bhagulpore		
90	0	Nil	Nil	0.05	Nil	0.06	-0.06	63.55	40.19	+23.36	0.0	0.1	Durbhunga	Mozufferpore	North Bengal.	
82	0	Nil	Nil	0.00	Nil	0.06	-0.06	40.13	42.27	-2.14	0.0	0.2	Mothari	Durbhunga		
82	0	Nil	Nil	0.00	Nil	0.06	-0.06	40.13	42.27	-2.14	0.0	0.2	Chupra	Chumpran		
82	0	Nil	Nil	0.00	Nil	0.08	-0.08	40.07	39.08	+0.99	0.0	0.2	Dohree	Saran	North Bengal.	
82	0.1	Nil	Nil	0.06	Nil	0.08	-0.08	40.07	39.08	+0.99	0.0	0.2	Buxar	Shahabad		
82	0.1	Nil	Nil	0.06	Nil	0.08	-0.08	40.07	39.08	+0.99	0.0	0.2	Arrah	Shahabad		
75	0.0	Nil	Nil	0.07	Nil	0.10	-0.10	57.07	40.96	+16.11	0.0	0.2	Gya	Gya	South Bengal.	
85	0	Nil	Nil	0.07	Nil	0.10	-0.10	45.49	40.88	+4.61	0.0	0.2	Bankipore	Patna		
80	0.0	Nil	Nil	0.06	Nil	0.06	-0.06	42.43	43.14	-0.71	0.0	0.2	Bhagulpore	Bhagulpore		
80	0	Nil	Nil	0.00	Nil	0.00	-0.00	54.13	50.43	+3.70	0.0	0.2	Unomka	South Bhagulpore	South Bengal.	
79	1.4	Nil	Nil	0.10	Nil	0.10	-0.10	43.00	50.30	-7.30	0.0	0.3	Hazaribagh	Monghyr		
71	0.3	Nil	Nil	0.20	Nil	0.20	-0.20	44.34	48.84	-4.50	0.0	0.3	Hauchi	South Bhagulpore		
74	0.7	Nil	Nil	0.00	Nil	0.13	-0.13	48.70	50.90	-2.20	0.0	0.2	Chyebassa	Hauchi	Chittagong.	

NOTE.—The variations are negative when the mean for the week is less than the corresponding normal mean, and positive when greater.  
 The means of the district are the numerical average of the rainfall return received in the district, i.e., from total rainfall at the subdivisions.

## Statement of Rainfall in Bengal for the week ending Friday (8 a.m.), the 10th of January 1890.

Meteorological division.	District.	Station.	RAINFALL.							TOTAL		Total rain-fall since 1st of month.	Average total rain-fall from 1st of month.	Total rain-fall since 10th May 1889.	Average rainfall from 10th May to date.
			Saturday, 4th January 1890.	Sunday, 5th January.	Monday, 6th January.	Tuesday, 7th January.	Wednesday, 8th January.	Thursday, 9th January.	Friday, 10th January.	Number of rainy days.	of rainfall week.				
Oude.	Pooree	Pooree	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	50.65	51.08
		Khandah	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.01	0.01	26.67	26.25
		Hanpur	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.03	0.03	65.30	44.40
		Baine Point	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.02	0.02	70.80	61.27
		Pipih	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	?	?	?
	Cuttack	Jaratinspore	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	73.97	47.72
		Bahki	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.06	0.06	5.48	40.33
		Cuttack	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.01	0.01	26.18	56.08
		Kondrapara	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	72.93	52.78
		Jajpore	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.10	0.10	67.46	43.16
	Balasore	Dharmatala	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	?	88.25	?
		Nalipore	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	?	72.47	?
		Chandbali	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.07	0.07	54.06	59.08
		Rhoadstuck	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.03	0.03	57.00	51.52
		Sorah	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.04	0.04	40.65	50.87
SOUTH-WEST BENGAL.	Midnapore	Balasore	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.08	0.08	40.61	57.54
		Jajpate	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.24	0.24	33.50	51.43
		Rampurhat	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.16	0.16	84.70	53.64
		Conta	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.10	0.10	55.13	51.08
		Saugor Island	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.04	0.04	50.74	50.75
	24-Pergunnas	Tumuck	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.08	0.08	40.50	50.80
		Mumapore	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.10	0.10	45.10	44.51
		Chhatra	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.20	0.20	59.65	51.26
		Kewabaty	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	?	55.06	?
		Hera	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	?	51.72	?
	Howrah	Rhagunapore	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	?	60.20	?
		Gurhatta	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	?	60.20	?
		Diamond Harbour	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.14	0.14	63.41	50.93
		Canning Town	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	?	57.80	?
		Alipore Jail	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.09	0.09	51.90	55.46
Hooghly	Harrackpore	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.10	0.10	64.58	49.52	
	Dum-Dum	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.12	0.12	57.91	50.78	
	Barnet	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.12	0.12	60.92	54.54	
	Busserhat	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.10	0.10	59.12	51.33	
	Howrah	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.23	0.23	54.64	51.79	
Bardwan	Mohistaka	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.10	0.10	55.27	49.40	
	Hooghly	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.05	0.05	35.95	47.84	
	Jatunabad	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.04	0.04	41.10	54.70	
	Culna	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.02	0.02	41.32	43.06	
	Bardwan	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.02	0.02	47.07	47.44	
SOUTH-EAST BENGAL.	Bankura	Chitua	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.10	0.10	43.11	47.51
		Kanungunge	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.09	0.09	55.23	50.70
		Manbar	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	?	53.71	?
		Bankura	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.04	0.04	50.79	51.10
		Kanungunge	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.06	0.06	57.40	51.06
	Burdwan	Manbar	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.06	0.06	51.64	51.06
		Khatra	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.10	0.10	65.91	53.94
		Jatun	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	?	45.14	?
		Kanungunge	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	?	50.40	?
		Anda	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	?	50.44	?
	Burdwan	Gangulphat	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	?	50.17	?
		Kanungunge	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	?	50.35	?
		Sonamukhi	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	?	54.33	?
		Burdwan	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.06	0.06	50.08	53.30
		H. Henry	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.11	0.11	47.07	55.91
Nadua	Retanpore	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.12	0.12	47.74	51.13	
	Kanungunge	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	?	54.07	?	
	Kanungunge	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	?	53.10	?	
	Murari	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.02	0.02	55.90	46.83	
	Kanungunge	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.07	0.07	42.93	45.51	
Khosla	Chandanga	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.10	0.10	40.81	50.70	
	Mohitpore	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.11	0.11	53.65	47.80	
	Kanungunge	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.10	0.10	55.91	54.13	
	Kanungunge	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.13	0.13	59.51	54.89	
	Kanungunge	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.14	0.14	58.93	50.00	
Jessore	Kanungunge	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.15	0.15	58.78	54.37	
	Narail	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	?	?	?	
	Jessore	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.16	0.16	40.47	45.44	
	Jessore	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.13	0.13	52.35	55.57	
	Magorah	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.07	0.07	50.20	52.08	
Moorshedabad	Magorah	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.06	0.06	50.48	54.06	
	Wangong	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.02	0.02	44.01	51.66	
	Kandi	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.05	0.05	50.04	50.78	
	Bennarpore	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.15	0.15	46.16	50.00	
	Lamur	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.04	0.04	47.13	50.50	
RAJSHAH.	Chittagong	Chittagong	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.15	0.15	50.78	50.78
		Chittagong	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.11	0.11	55.01	48.19
		Chittagong	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.14	0.14	50.48	50.48
		Chittagong	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	?	45.25	?
		Chittagong	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	?	45.25	?
	Chittagong Hill Tracts.	Chittagong	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	?	45.25	?
		Chittagong	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	?	45.25	?
		Chittagong	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	?	45.25	?
		Chittagong	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	?	45.25	?
		Chittagong	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	?	45.25	?
	Bankerrunge	Chittagong	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.10	0.10	120.40	135.14
		Chittagong	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.06	0.06	76.42	53.96
		Chittagong	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	?	117.09	?
		Chittagong	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	?	63.40	?
		Chittagong	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	?	63.40	?

## Statement of Rainfall in Bengal for the week ending Friday (8 a.m.), the 10th of January 1890—contd.

Meteorological Division.	District.	Station.	RAINFALL.							TOTAL		Total rain-fall since 1st of month.	Average total rain-fall from 1st of month.	Total rain-fall since 15th May 1889.	Average rainfall from 15th May to date.
			Saturday, 4th January 1890.	Sunday, 5th January.	Monday, 6th January.	Tuesday, 7th January.	Wednesday, 8th January.	Thursday, 9th January.	Friday, 10th January.	Number of rainy days.	of week.				
EAST BENGAL—contd.	Noakhally	Gourasaddi	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	?	61.31	?
		Boopali	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	?	62.82	?
		Noakhally	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.36	102.17	107.46
		Fenny	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.47	94.24	100.35
	Futtedpore	Harishpore	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	?	82.40	?
		Rampur	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	?	80.76	?
		Madaripore	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.16	60.94	65.10
		Futtedpore	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.04	63.90	65.95
	Dacca	Goalundo	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.10	64.29	62.64
		Murshigunge	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.13	70.83	69.63
		Dacca	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.11	70.49	69.15
		Naraingunge	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.06	60.39	60.1
	Hill Tipperah	Mamukgoner	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.13	67.90	66.70
		Joydehpore	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	?	66.61	?
		Agartala	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.21	64.85	61.12
		Comilla	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.20	62.17	72.63
	Tipperah	Chandpore	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.19	64.82	72.14
		Brahmambaria	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.23	60.68	61.17
		Kanchandrapore	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	?	60.14	?
		Nazimnagar	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	?	60.69	?
	Mymensingh	Bandikandi	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	?	62.59	?
		Kash	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	?	62.44	?
		Laksham	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	?	62.00	?
		Kishoreganj	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.17	60.86	60.70
	Pubna	Atia (Tangal)	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.11	61.00	59.00
		Mymensingh	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.06	66.55	73.71
		Jamulpore	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.09	63.14	64.91
		Nettikana	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.03	123.93	72.04
	Bogra	Subornakhali	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	?	67.43	?
		Durgapore	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	?	149.08	?
		Shorepore (Bura)	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	?	67.03	?
		Baruaganj	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	?	66.31	?
NORTH BENGAL.	Pubna	Pubna	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.09	60.87	59.30
		Baruaganj	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.03	60.86	58.46
	Bogra	Shorepore	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.03	62.66	57.11
		Nowkhila	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.03	60.90	58.90
		Botia	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.12	70.03	60.23
	Rajshahy	Panchhili	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.03	64.98	55.43
		Banshal	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.13	66.80	52.60
		Natore	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.22	68.64	54.33
	Maidah	Naogon	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.12	67.87	60.16
		Loipore	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	?	36.72	?
		Manda	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	?	43.27	?
	Dinagopore	Maidah	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.04	60.63	51.37
		Chanchal	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.09	28.06	56.29
		Gagan	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	?	39.79	?
	Dinagopore	Sitaganj	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	?	61.77	?
		Mohadelpore	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.13	53.83	55.91
		Churamou	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.01	61.52	51.93
	Bangore	Bagungo	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.01	62.25	57.27
		Dinagopore	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.06	67.84	63.09
		Thakoorpore	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.05	61.28	60.95
	Bangore	Thakoorpore	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	?	67.47	?
		Brahanigunja (Gyabanda)	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.11	67.55	61.60
		Bangore	.....	.....	0.09	.....	.....	.....	.....	1	0.09	0.09	0.11	74.00	74.07
	Jaipur	Kurigram	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.03	60.67	72.83
		Hagimara	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.10	67.69	64.74
		(Nalchamari)	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	?	79.00	?
	Jaipur	Udipore	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	?	67.00	?
		Jaipur	.....	.....	.....	.....	.....	.....	.....	1	0.05	0.05	0.03	123.83	116.66
		Alipore	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	?	119.08	?
	Dooab Behar	Fulbaria	.....	.....	.....	.....	.....	.....	.....	1	0.20	0.20	?	127.63	?
		Dehagaj	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	?	69.02	?
		Bhagatpore (Narainkhatra)	.....	.....	.....	.....	.....	.....	.....	3	0.42	0.42	?	139.03	?
	Dooab Behar	Amhata	.....	.....	.....	.....	.....	.....	.....	1	0.19	0.19	0.03	99.19	93.76
		Gosch Behar	.....	.....	.....	.....	.....	.....	.....	1	0.05	0.05	0.02	125.39	117.60
		Mickalgoner	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	Nd	121.37	107.21
	Darjeeling Hill.	Mairbhanga	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.01	117.63	111.17
		Kusa	.....	.....	.....	.....	.....	.....	.....	2	0.01	0.01	0.23	101.60	101.84
		Kilguri	.....	.....	.....	.....	.....	.....	.....	1	0.03	0.03	0.01	120.74	102.51
	North Bengal	Haripur	.....	.....	.....	.....	.....	.....	.....	2	0.16	0.16	0.11	128.03	108.23
		Kulmipog	.....	.....	.....	.....	.....	.....	.....	1	0.16	0.16	0.01	91.52	82.17
		Kurong	.....	.....	.....	.....	.....	.....	.....	3	0.03	0.03	?	168.88	?
	Paranah	Kurong	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.09	102.37	89.90
		Ararua	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.14	70.41	63.97
		Pamoh	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.04	63.43	61.10
	North Bhagulpore.	Gondara	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	?	?	?
		Jalarampore	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	?	?	?
		Natar	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	?	?	?
	Darbhanga	Kulapuri	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.06	60.83	49.14
		Madddapore	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.03	67.26	67.76
		Pratabganj	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	?	67.83	?
	Moulvibazar	Tajpore	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.18	62.64	62.76
		Darbhanga	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.05	50.61	45.66
		Madhubani	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.15	63.11	63.47
	Moulvibazar	Rushera	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	?	60.00	?
		Rushera	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	?	25.84	?
		Rushera	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	?	?	?
	Moulvibazar	Atamathi	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.12	65.00	62.00
		Moulvibazar	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.14	45.41	41.41
		Naipore	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.11	42.31	41.41
	Moulvibazar	Para	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	?	41.00	?
		Mahar		.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	?	41.00	?
		Papri		.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	?	47.00	?

## Statement of Rainfall in Bengal for the week ending Friday (8 a.m.), the 10th of January 1890—concl.

Meteorological Division.	District.	Station.	RAINFALL.							Total.		Total rainfall since 1st of month.	Average total rainfall from 1st of month.	Total rainfall since 15th May 1889.	Average rainfall from 15th May to date.
			Saturday, 4th January 1890.	Sunday, 5th January.	Monday, 6th January.	Tuesday, 7th January.	Wednesday, 8th January.	Thursday, 9th January.	Friday, 10th January.	Number of rainy days.	Rainfall of week.				
NORTH BENGAL—continued.	Chumpra.	Motihari	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.06	74.78	64.26
		Hatich	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.05	82.29	67.84
		Barkhara	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	80.67	?
SOUTH BENGAL	Sara.	Gopalgunge	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.04	82.64	65.77
		Chuprah	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.04	40.74	41.36
		Buzur	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.12	47.61	40.09
	Shahabad.	Bhulach	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.04	42.66	37.95
		Bhulach	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.07	39.40	39.38
		Saveran	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.04	29.41	40.56
		Arrah	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.09	42.50	39.78
		Mohania	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	?	?
	Oya.	Aurangabad	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.06	30.43	49.26
		Oya	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.07	30.84	47.14
		Naradish	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.03	30.60	39.67
		Jehansabad	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.15	37.40	39.64
		Arwal	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	36.31	?
		Bandanagar	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	39.00	?
		Shayyabati	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	21.39	?
	Patna.	Patna	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	17.02	?
		Patna	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	31.00	?
		Barh	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.12	31.40	41.76
		Barh	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.09	40.03	41.00
		Barh	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.09	41.04	41.41
CALCUTTA AND NEARBY.	Monghyr.	Barh	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	43.28	?
		Hilsa	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	35.31	?
		Barh	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	35.31	?
	South Bhagalpore.	Barh	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.06	47.02	39.09
		Monghyr	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.07	41.67	46.16
		Jamui	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.05	39.44	40.41
	South Bhagalpore.	Gopri	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	39.19	?
		Shikhpura	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	43.32	?
		Bhagalpore	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.04	46.06	41.00
	South Bhagalpore.	Barh	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.00	34.34	41.20
		Kalyan	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	42.97	?
		Bangson	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	?	?
	South Bhagalpore.	Barh	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.02	39.00	32.00
		Godda	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.00	49.04	47.35
		Pakour	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.00	75.59	55.13
		Nya Doomba	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.15	56.75	55.00
		Dooghur	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.09	49.60	50.79
		Jamui	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.10	47.21	48.00
		Mohagama	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	50.41	?
	Hemribagh.	Namhat	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	53.87	?
		Pachamba	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.09	30.00	47.10
		(Girdi).	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.17	49.10	46.71
		Basantpur	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.15	30.24	40.54
		Santapur	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.09	47.04	47.55
		Mahudi Hill	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.00	43.00	43.00
		Jhoomra Hill	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	31.36	?
CALCUTTA AND NEARBY.	Lohardugga.	Barh	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	60.01	?
		Chakra	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	50.33	?
		Karagaha	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	?	?
		Ramghar	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	?	?
		Lohardugga	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.07	45.24	50.21
		Kanchi	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.10	55.41	51.45
		Palemow	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.14	54.16	52.76
	Singbhoon.	Nili	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	33.00	?
		Balunet	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	?	?
		Hossainabad	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	41.40	?
	Singbhoon.	Gavah	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	32.77	?
		Chreban	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.13	49.76	51.10
		Chakradhar	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	40.80	?
	Singbhoon.	Chakradhar	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	58.70	?
		Chakradhar	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	53.80	?
		Chakradhar	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	?	?
	Singbhoon.	Chakradhar	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.07	45.44	46.51
		Chakradhar	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	0.10	33.10	44.61
		Chakradhar	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	43.91	?
	Singbhoon.	Chakradhar	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	44.38	?
		Chakradhar	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	51.42	?
		Chakradhar	.....	.....	.....	.....	.....	.....	.....	Nil	Nil	Nil	?	50.80	?

Explanation.—Indicates that no rain has fallen. If the return for any day has not been received, the corresponding space is left blank. If any of the returns are wanting, the corresponding spaces in the total rainfall columns are left blank.

CALCUTTA, 14th January 1890.

**SUMMARY OF THE METEOROLOGICAL AND RAINFALL OBSERVATIONS  
TAKEN IN BENGAL FOR THE WEEK ENDING FRIDAY, THE 10TH  
JANUARY 1890.**

NORMAL north-east monsoon conditions obtained over the whole of Bengal throughout the previous week. Over the greater part of the province similar conditions have again prevailed during the present week, but there has been an exception to the prevailing fine weather over a part of the north, and to a smaller extent over part of the centre, of the province, from the fact that a very feeble area of relatively low pressure was formed on the 5th which included many stations in the centre of the province, stretching from Dinagepur on the north to Jessore in the south and from Bankoora on the west to Serajgunge in the east, and round which there was a feeble kind of cyclonic circulation of winds, the centre of the circulation being to the east of Borhampore. The feeble area of low pressure was again perceptible on the 6th, the centre being apparently a little north of its position on the previous day, and again there was a slight circulation of winds round the centre. On the 7th the lowest pressure in the province was at Bogra, near which apparently the feeble low-pressure area again existed, but on the 8th pressure had become slightly low over a part of North and East Bengal, while on the 9th the lowest pressure in the province had retreated southwards to Burisal, when conditions became practically normal again. It will be thus seen that there was a tendency for slightly disturbed conditions to set in over the centre and north of the province for the period, the 6th to the 9th of January. The disturbance was, however, not sufficient to do more than give slightly cloudy weather at some of the stations in the centre of the province, but in the hills and at the stations nearest the hills the disturbance showed itself by giving rather heavily-clouded skies and light rain showers. These showers were practically entirely confined to the Julpigoree, Cooch Behar, and Darjeeling Hills districts. In most cases the falls were slight only, and the only station which received a fall larger than half an inch was Kurseong.

Over the remainder of the province fine north-east monsoon weather has continued, though, as is frequently the case when weather is slightly disturbed, temperature and humidity have been somewhat high; but the skies have remained almost cloudless, and rain has been entirely absent from the remainder of the province for the whole week.

**Pressure**—On the 4th of January fell very slowly at some of the stations in the centre of the province, while it was rising at some of the stations in East and North Bengal. A further general fall took place on the following day except at some of the south-eastern stations. On the 6th a rather rapid rise took place, which was continued on the 7th, but on the 8th pressure had fallen moderately again, though there was again a rise at the end of the week. For the whole province for the week the mean pressure has been considerably in defect of the normal, the average defect ranging from about five to eight-hundredths of an inch.

**Temperature**—Has been generally increasing during the week, and in all districts, except Orissa, the mean temperature has been rather considerably in excess of the normal, the excess ranging up to more than four degrees in East and North Bengal. For the whole province the mean temperature has been  $2.6^{\circ}$  in excess of the normal.

The general distribution of temperature during the week, its range from day to night, and its variation from the normal, are best shown in the following table, where the average maximum, minimum and mean temperatures for the week at nine typical stations in different districts of the province are compared with the normal. It will be seen that both day and night temperatures have been in excess of the normal, the night temperatures, if anything, showing rather the greater excess:—

*Table showing the excess or defect of the actual mean temperature from the normal for the week ending 10th January 1890.*

	Normal mean maximum temperature for the week ending 10th January.	Actual mean maximum temperature for the week ending 10th January 1890.	Variation of actual mean from the normal.	Normal mean minimum temperature for the week ending 10th January.	Actual mean minimum temperature for the week ending 10th January 1890.	Variation of actual mean from the normal.	Normal mean daily temperature for the week ending 10th January.	Actual mean daily temperature for the week ending 10th January 1890.	Variation of actual mean from the normal.
Outlook	83.7	83.1	-1.6	59.8	58.8	-1.0	71.8	70.5	-1.3
Calcutta	79.1	79.9	+0.8	54.6	55.2	+0.6	61.4	62.0	+0.6
Dacca	77.9	78.6	+0.7	54.8	55.1	+0.3	65.9	66.0	+0.1
Burdwan	77.3	78.4	+1.1	54.2	57.4	+3.2	65.7	68.1	+2.4
Patna	75.4	76.6	+1.2	51.9	53.3	+1.4	60.7	64.5	+3.8
Gya	75.0	76.6	+1.6	51.3	53.7	+2.4	63.1	64.7	+1.6
Murnah	74.3	74.3	0.0	47.6	52.2	+4.6	60.9	66.2	+5.3
Barrabigh	71.6	72.9	+1.3	49.3	51.9	+2.6	60.3	63.4	+3.1
Darjeeling	66.9	66.4	-0.5	35.7	37.7	+2.0	41.3	43.5	+2.2

**Rainfall**.—A few showers have fallen in the Julpigoree, Cooch Behar, and Darjeeling Hills districts, but the falls are as a rule small. The largest fall is one of 0.63 inch at Kurseong and of 0.42 inch at Nagraokotta, but in all other cases the falls have been less than a quarter of an inch. In other districts, beyond a slight shower at Bunglepore, there has been absolutely no rain.



The following table gives the summary of the temperature and rainfall data of each of the seven meteorological divisions of the province for the week ending Friday, the 10th of January 1890 :—

METEOROLOGICAL DIVISIONS.	TEMPERATURE.						RAINFALL.									
	Highest observed during week.	Lowest observed during week.	Averages for week.			Average mean of week above or below normal mean of week.	Of week.			Rainy days.		Since 1st of month.		Since 15th May 1889.		
			Of highest of each day.	Of lowest of each day.	Of mean for each day.		Average.	Normal average.	Variation.	Average number in week.	Normal average number in week.	Variation.	Average.	Normal average.	Average.	Normal average.
Orissa* ... ..	83.3	53.5	80.0	58.3	69.3	0	Nil	0.04	-0.04	0.0	0.1	-0.1	Nil	0.05	23.01	23.26
South-West Bengal ... ..	82.3	53.3	75.3	57.3	67.7	+2.5	Nil	0.05	-0.05	0.0	0.3	-0.3	Nil	0.11	23.27	24.07
East Bengal ... ..	81.1	50.8	77.3	59.2	68.4	+4.1	Nil	0.12	-0.12	0.0	0.3	-0.3	Nil	0.10	75.23	73.07
North Bengal* ... ..	81.4	52.7	77.8	56.3	67.0	+4.5	0.02	0.07	-0.05	0.3	0.3	0	0.03	0.07	73.14	69.94
North Behar ... ..	78.9	50.0	75.4	54.0	64.7	+3.3	Nil	0.06	-0.06	0.0	0.3	-0.3	Nil	0.09	27.03	24.17
South Behar ... ..	79.1	48.9	76.3	53.1	64.7	+3.4	Nil	0.07	-0.07	0.0	0.3	-0.3	Nil	0.08	24.16	23.08
Chuttia Nagpur ... ..	76.0*	47.0*	73.0*	51.4*	62.3*	+1.8*	Nil	0.10	-0.10	0.0	0.3	-0.3	Nil	0.17	23.06	20.06

\* Pooree, Julpigoree, Motiharee, Chupra and Chyebasse not included.

METEOROLOGICAL OFFICE, BENGAL ;  
The 14th January 1890.

A. PEDLER,  
Meteorological Reporter to the Govt. of Bengal.

Results of the Barometrical and Thermometrical Observations taken at the Meteorological Office, Chowringhee, from 5th to 11th January 1890.

Month.	Date.	Pressure at 10 A.M. corrected and reduced to 32 Fahr.	TEMPERATURE.						HYGROMETRY.			Rainfall per 24 hours.
			Daily mean.	Maximum.	Range.	Minimum.	Dry bulb at 10 A.M.	Wet bulb at 10 A.M.	Vapour tension at 10 A.M.	Dew point at 10 A.M.	Humidity at 10 A.M.	
Jan. 1890	5th	30.002	69.7	79.0	20.4	59.5	78.4	65.5	.724	60.3	63	.....
"	6th	30.034	69.7	79.9	20.5	59.4	71.6	65.6	.652	61.7	71	.....
"	7th	30.120	69.1	79.9	21.5	58.3	71.6	66.6	.662	61.7	71	.....
"	8th	30.054	70.4	80.9	21.0	59.9	72.6	66.6	.574	62.9	72	.....
"	9th	30.080	67.5	77.9	21.2	56.7	70.6	63.6	.496	58.7	66	.....
"	10th	30.053	67.1	77.9	21.0	56.9	69.6	64.1	.526	60.4	73	.....
"	11th	30.025	69.0	78.9	19.9	59.0	71.1	65.0	.558	62.1	73	.....

The mean 10 A.M. pressure of the seven days ... 30.063

The mean temperature of the seven days ... 68.9

The extreme variation of temperature ... 24.2

The maximum temperature ... 80.9

The mean 10 A.M. relative humidity of the seven days ... 70%

The total fall of rain from 5th to 11th January 1890 ... Nil

The daily mean temperatures are the crude means of maximum and minimum temperatures.

O. LITTLE,

For Meteorological Reporter to the Govt. of India.

METEOROLOGICAL OFFICE, INDIA ;  
The 13th January 1890.

## MEMORANDUM.

The total number of deaths registered during the month of November 1889 in the districts of Bengal amounted to 147,795, against 148,616 in the preceding month, 138,949 in November 1888, and an average of 155,663 in the corresponding months of the previous five years 1884—88. These figures correspond to annual death-rates of 26·88, 27·00, 25·44 and 28·20 respectively. It will thus be seen that while the death-rate for November 1889 was less than that of the preceding month and of the average mortality of November, it was in excess of the mortality of November 1888. Of the 147,795 deaths registered in November 1889, 76,066, or 27·84 per thousand, were males and 71,729, or 25·92 per thousand, were females.

2. The highest death-rates were returned in order of sequence from the following districts. For comparison the mortality in them during November 1888 is also exhibited :—

Districts.	Ratio per mille during—		Districts.	Ratio per mille during—	
	Nov. 1889.	Nov. 1888.		Nov. 1889.	Nov. 1888.
Serampore	47·04	29·70	Shahabad	33·60	39·48
Monghyr	40·32	32·04	Dinajpur	33·48	33·12
Jessore	37·92	33·24	Gya	32·76	33·48
Backerganj	37·08	27·96	Noakhali	32·40	29·01
Cuttack	37·08	18·80	Bhagulpore	32·28	32·04
Hughli	35·40	27·84	Khulna	32·16	32·76
Julpaiguri	35·40	35·64	Rajshahye	31·68	29·64
Poori	35·04	16·68	Howrah	29·64	24·00
Balasore	34·56	17·76			

3. The following statement compares the rates of mortality under the several heads of disease during the three periods, viz., November 1889, 1888, and the average for that month of the five years 1884—88 :—

	Ratio per mille during—		
	November 1889.	November 1888.	Mean of previous five years, 1884—88.
Cholera	·90	1·32	1·92
Small-pox	·01	·03	·02
Fever	20·76	19·56	21·60
Bowel-complaints	·72	·60	·84
Injury	·24	·01	·24
Other causes	3·84	3·48	3·36

The only noticeable point indicated by the above figures is that cholera was considerably less fatal in November 1889 than in either of the past periods with which that month is compared, and that fever as compared with November 1888 has increased somewhat.

4. In the statement below the districts are exhibited in which the highest proportions of deaths were recorded :—

Cholera.		Fever.		Other Causes.	
	Ratio per mille.		Ratio per mille.		Ratio per mille.
Cuttack	7·92	Monghyr	35·52	Poori	18·60
Serampore	5·40	Julpaiguri	33·24	Backerganj	10·08
Jessore	4·80	Dinajpur	31·80		
Poori	4·56	Jessore	30·48		
Balasore	4·56	Purneah	29·16		
Howrah	2·76	Rajshahye	28·92		
Faridpore	2·64	Gya	18·80		
		Serampore	28·56		
		Noakhali	27·36		
		Shahabad	27·96		
		Rungpore	26·64		
		Bhagulpore	26·40		
		Hughli	26·04		
		Khulna	25·32		
		Backerganj	25·32		
		Hazaribagh	24·36		
		Maldah	24·12		

5. The following table exhibits the death-rates among the five principal classes which comprise the population of the Bengal province, viz., Hindus, Mahomedans, Other classes, Buddhists, and Christians, arranged so as to show the graduated rates of mortality among them respectively :—

Classes.	Ratio per mille—	
	Nov. 1889.	Nov. 1888.
Hindus	27·48	24·84
Mahomedans	16·52	27·12
Other classes	16·90	15·60
Buddhists	16·48	15·84
Christians	14·64	15·48

6. Referring to mortality in relation to Age, infants under one year furnished a death-rate of 190·32 per 1,000 of the living, against 172·32 per 100 in November 1888, and old men of 60 years and upwards of 73·08 per 1,000, against 64·68 in November 1888. The mortality under the other groups of ages ranged from 38·52 per 1,000 among persons between 50 and 60 years of age to 12·00 per 1,000 among persons between 10 and 15 years. The corresponding proportions in November 1888 were 85·04 and 11·88 respectively.

W. H. GREGG, Dip. Publ. Health, Camb.,

Sanitary Commissioner for Bengal.

The 13th January 1890.

## Statement showing the Results of the Registration of Deaths in the Districts in Bengal for the month of November 1889.

DIVISIONS	DISTRICTS	POPULATION.			DEATHS FROM—										DISEASE.					RATIO PER 1,000 OF POPULATION PER ANNUM.			Sex.		Ratio of male deaths to female deaths, calculated on the population, estimated for the purpose, such male to female population.
		Males.	Females.	Total.	Cholera.	Small-pox.	Typhoid.	Injury.	Other diseases.	All causes.	Cholera.	Small-pox.	Typhoid.	Injury.	Other diseases.	All causes.	Ratio of deaths in the previous month.	Ratio of deaths per annum in the previous year.	Males.	Females.	Ratio per 1,000 of population per annum.	Males.	Females.		
BENGAL	Howrah	608,830	323,799	932,629	15	1	2,271	31	401	2,303	15	1	10	10	4	24	10.3	10.3	1,879	1,779	36.36	37.95	37.95	114	
	Calcutta	1,011,715	510,131	1,521,846	14	1	1,800	31	401	2,303	15	1	10	10	4	24	10.3	10.3	1,879	1,779	36.36	37.95	37.95	114	
	Medinipur	1,011,715	510,131	1,521,846	14	1	1,800	31	401	2,303	15	1	10	10	4	24	10.3	10.3	1,879	1,779	36.36	37.95	37.95	114	
	Chittagong	1,011,715	510,131	1,521,846	14	1	1,800	31	401	2,303	15	1	10	10	4	24	10.3	10.3	1,879	1,779	36.36	37.95	37.95	114	
	Barisal	1,011,715	510,131	1,521,846	14	1	1,800	31	401	2,303	15	1	10	10	4	24	10.3	10.3	1,879	1,779	36.36	37.95	37.95	114	
BENGAL	Howrah	608,830	323,799	932,629	15	1	2,271	31	401	2,303	15	1	10	10	4	24	10.3	10.3	1,879	1,779	36.36	37.95	37.95	114	
	Calcutta	1,011,715	510,131	1,521,846	14	1	1,800	31	401	2,303	15	1	10	10	4	24	10.3	10.3	1,879	1,779	36.36	37.95	37.95	114	
	Medinipur	1,011,715	510,131	1,521,846	14	1	1,800	31	401	2,303	15	1	10	10	4	24	10.3	10.3	1,879	1,779	36.36	37.95	37.95	114	
	Chittagong	1,011,715	510,131	1,521,846	14	1	1,800	31	401	2,303	15	1	10	10	4	24	10.3	10.3	1,879	1,779	36.36	37.95	37.95	114	
	Barisal	1,011,715	510,131	1,521,846	14	1	1,800	31	401	2,303	15	1	10	10	4	24	10.3	10.3	1,879	1,779	36.36	37.95	37.95	114	
BENGAL	Howrah	608,830	323,799	932,629	15	1	2,271	31	401	2,303	15	1	10	10	4	24	10.3	10.3	1,879	1,779	36.36	37.95	37.95	114	
	Calcutta	1,011,715	510,131	1,521,846	14	1	1,800	31	401	2,303	15	1	10	10	4	24	10.3	10.3	1,879	1,779	36.36	37.95	37.95	114	
	Medinipur	1,011,715	510,131	1,521,846	14	1	1,800	31	401	2,303	15	1	10	10	4	24	10.3	10.3	1,879	1,779	36.36	37.95	37.95	114	
	Chittagong	1,011,715	510,131	1,521,846	14	1	1,800	31	401	2,303	15	1	10	10	4	24	10.3	10.3	1,879	1,779	36.36	37.95	37.95	114	
	Barisal	1,011,715	510,131	1,521,846	14	1	1,800	31	401	2,303	15	1	10	10	4	24	10.3	10.3	1,879	1,779	36.36	37.95	37.95	114	
BENGAL	Howrah	608,830	323,799	932,629	15	1	2,271	31	401	2,303	15	1	10	10	4	24	10.3	10.3	1,879	1,779	36.36	37.95	37.95	114	
	Calcutta	1,011,715	510,131	1,521,846	14	1	1,800	31	401	2,303	15	1	10	10	4	24	10.3	10.3	1,879	1,779	36.36	37.95	37.95	114	
	Medinipur	1,011,715	510,131	1,521,846	14	1	1,800	31	401	2,303	15	1	10	10	4	24	10.3	10.3	1,879	1,779	36.36	37.95	37.95	114	
	Chittagong	1,011,715	510,131	1,521,846	14	1	1,800	31	401	2,303	15	1	10	10	4	24	10.3	10.3	1,879	1,779	36.36	37.95	37.95	114	
	Barisal	1,011,715	510,131	1,521,846	14	1	1,800	31	401	2,303	15	1	10	10	4	24	10.3	10.3	1,879	1,779	36.36	37.95	37.95	114	
TOTAL FOR THE PROVINCE.		32,000,700	23,100,000	55,100,700	5,821	198	114,028	4,431	1,410	31,671	1,275	10	78	71	3,000	37,000	37.00	37.00	71,720	71,720	37.95	37.95	37.95	197	

DIVISIONS.	DISTRICTS.	MORTALITY ACCORDING TO—										AGE.										RATIO PER 1,000 OF POPULATION PER ANNUM.									
		CLASS.					DEATHS AROUND—					SEXES.					Under 1 year.					RATIO PER 1,000 OF POPULATION PER ANNUM.					Under 1 year.				
		CLASS.					DEATHS AROUND—					SEXES.					Under 1 year.					RATIO PER 1,000 OF POPULATION PER ANNUM.					Under 1 year.				
		Christians.	Buddhists.	Other classes.	Christians.	Buddhists.	Other classes.	Christians.	Buddhists.	Other classes.	Christians.	Buddhists.	Other classes.	Christians.	Buddhists.	Other classes.	Christians.	Buddhists.	Other classes.	Christians.	Buddhists.	Other classes.	Christians.	Buddhists.	Other classes.	Christians.	Buddhists.	Other classes.	Christians.	Buddhists.	Other classes.
BOMBAY	Pandhara	2,311	...	...	24,36	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Baroda	1,257	...	...	14,30	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Surat	1,257	...	...	14,30	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Amreli	1,257	...	...	14,30	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Broach	1,257	...	...	14,30	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
PUNJAB	Amritsar	1,257	...	...	14,30	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Lyallpur	1,257	...	...	14,30	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Rawalpindi	1,257	...	...	14,30	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Sheikhpura	1,257	...	...	14,30	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Thanesar	1,257	...	...	14,30	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
RAJASTHAN	Jaipur	1,257	...	...	14,30	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Bikaner	1,257	...	...	14,30	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Udaipur	1,257	...	...	14,30	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Bhilai	1,257	...	...	14,30	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Baran	1,257	...	...	14,30	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
GUJARAT	Surat	1,257	...	...	14,30	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Vadodra	1,257	...	...	14,30	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Amreli	1,257	...	...	14,30	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Broach	1,257	...	...	14,30	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Baran	1,257	...	...	14,30	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
MADHIA	Indore	1,257	...	...	14,30	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Bhopal	1,257	...	...	14,30	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Gwalior	1,257	...	...	14,30	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Jabalpur	1,257	...	...	14,30	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Ujjain	1,257	...	...	14,30	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
MYSORE	Mysore	1,257	...	...	14,30	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Channarayana	1,257	...	...	14,30	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Channarayana	1,257	...	...	14,30	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Channarayana	1,257	...	...	14,30	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Channarayana	1,257	...	...	14,30	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
MADRAS	Madras	1,257	...	...	14,30	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Chennai	1,257	...	...	14,30	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Chennai	1,257	...	...	14,30	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Chennai	1,257	...	...	14,30	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Chennai	1,257	...	...	14,30	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

OFFICE OF SANITARY COMMISSIONER FOR BENGAL,  
The 13th January 1890.  
W. H. GREGG, Dip. Publ. Health, Camb.,  
Sanitary Commissioner for Bengal.

## MEMORANDUM.

THE principal Municipalities in Bengal returned, during the week ending 28th December 1889, the birth and death-rates of 24 and 27.9 per 1,000 of population, respectively, as opposed to 25.2 and 30.2 per 1,000 in the preceding week ending 21st December, indicating a falling off in the registration of both births and deaths.

2. These events were returned in the highest proportions by the following Municipalities :—

Births.			Deaths.		
		Ratio per mille.			Ratio per mille.
Ranaghat	...	60.9	Poori	...	73.4
Utterpara	...	47.2	Serampore	...	68.7
Howrah	...	38.4	Narainganj	...	62.1
Serampore	...	35.3	Jessore	...	61.2
Hughli and Chinsurah	...	34.5	Utterpara	...	56.6
Rampore Beaulah	...	34.2	Ranaghat	...	53.9
Santipore	...	34.3	Darjiling	...	51.9
Narainganj	...	33.1	Hughli and Chinsurah	...	44.8
			Comillah	...	42.4
			Dacca	...	36.8
			Burdwan	...	33.6
			Howrah	...	31.5
			Purneah	...	31.2
			Gya	...	30.1

3. Referring to the specific diseases, there was a diminution of mortality from fever, while the fatal results from the other diseases exhibited only fractional differences—*vide* statement appended below :—

			Ratio per mille during the weeks ending—	
			28th December 1889.	21st December 1889.
Cholera	...	...	3.2	2.4
Small-pox	...	...	.4	.2
Fever	...	...	10.4	12.8
Bowel-complaints	...	...	4.8	5.2
Injury	...	...	.6	.5
Other causes	...	...	8.4	9.1

4. The following Municipalities returned conspicuously high mortality from cholera, small-pox, fever, bowel-complaints, and the unspecified diseases coming under the head of "Other causes" :—

Cholera.	Small-pox.	Fever.	Bowel-complaints.	Other causes.
Ratio per mille.	Ratio per mille.	Ratio per mille.	Ratio per mille.	Ratio per mille.
Narainganj ... 33.1	Poori ... 12.6	Darjiling ... 37.0	Serampore ... 23.6	Poori ... 27.3
Comillah ... 30.8		Ranaghat ... 35.9	Hughli and Chinsurah ... 14.8	Serampore ... 25.6
Chittagong ... 23.7		Poori ... 20.9	Poori ... 12.6	Dacca ... 14.9
Dacca ... 9.1		Purneah ... 20.8	Howrah ... 11.4	Gya ... 11.6
Howrah ... 6.3				

5. The death-rates according to Sex, Class and Age stood as shown below :—

According to Sex.		According to Class.		According to Age.	
	Ratio per mille.		Ratio per mille.		Ratio per mille.
Males	32.0	Christians	7.5	Under 1 year	200.8
Females	23.5	Hindus	28.5	1 and under 5 years	22.9
Ratio of male deaths to every 100 female deaths, calculated on the proportion such mortality bears to the total male and female population	146	Mahomedans	27.0	5 " 10 "	11.3
		Buddhists	25.7	10 " 15 "	8.6
				15 " 20 "	15.0
				20 " 30 "	17.5
				30 " 40 "	19.2
				40 " 50 "	26.2
				50 " 60 "	32.9
				60 years and upwards	91.0

The 13th January 1890.

W. H. GREGG, Dip. Publ. Health, Camb.,  
Sanitary Commissioner for Bengal.



Statement showing the Results of the Registration of Births and Deaths in the principal Municipalities in Bengal during the week ending 28th December 1886.

[illegible]

13		14		15		16																													
MORTALITY ACCORDING TO—				Age.																															
Class.				Deaths.				Ratio per 1,000 of Population per Annum.																											
Districts.				Deaths.				Ratio per 1,000 of Population per Annum.																											
Ratio per 1,000 of Population per Annum.				Deaths.				Ratio per 1,000 of Population per Annum.																											
Under 1 year.				1 and under 5 years.				5 and under 10 years.				10 and under 15 years.				15 and under 20 years.				20 and under 30 years.				30 and under 40 years.				40 and under 50 years.				50 years and up.			
Under 1 year.				1 and under 5 years.				5 and under 10 years.				10 and under 15 years.				15 and under 20 years.				20 and under 30 years.				30 and under 40 years.				40 and under 50 years.				50 years and up.			
Under 1 year.				1 and under 5 years.				5 and under 10 years.				10 and under 15 years.				15 and under 20 years.				20 and under 30 years.				30 and under 40 years.				40 and under 50 years.				50 years and up.			
Under 1 year.				1 and under 5 years.				5 and under 10 years.				10 and under 15 years.				15 and under 20 years.				20 and under 30 years.				30 and under 40 years.				40 and under 50 years.				50 years and up.			
Under 1 year.				1 and under 5 years.				5 and under 10 years.				10 and under 15 years.				15 and under 20 years.				20 and under 30 years.				30 and under 40 years.				40 and under 50 years.				50 years and up.			
Under 1 year.				1 and under 5 years.				5 and under 10 years.				10 and under 15 years.				15 and under 20 years.				20 and under 30 years.				30 and under 40 years.				40 and under 50 years.				50 years and up.			
Under 1 year.				1 and under 5 years.				5 and under 10 years.				10 and under 15 years.				15 and under 20 years.				20 and under 30 years.				30 and under 40 years.				40 and under 50 years.				50 years and up.			
Under 1 year.				1 and under 5 years.				5 and under 10 years.				10 and under 15 years.				15 and under 20 years.				20 and under 30 years.				30 and under 40 years.				40 and under 50 years.				50 years and up.			
Under 1 year.				1 and under 5 years.				5 and under 10 years.				10 and under 15 years.				15 and under 20 years.				20 and under 30 years.				30 and under 40 years.				40 and under 50 years.				50 years and up.			
Under 1 year.				1 and under 5 years.				5 and under 10 years.				10 and under 15 years.				15 and under 20 years.				20 and under 30 years.				30 and under 40 years.				40 and under 50 years.				50 years and up.			
Under 1 year.				1 and under 5 years.				5 and under 10 years.				10 and under 15 years.				15 and under 20 years.				20 and under 30 years.				30 and under 40 years.				40 and under 50 years.				50 years and up.			
Under 1 year.				1 and under 5 years.				5 and under 10 years.				10 and under 15 years.				15 and under 20 years.				20 and under 30 years.				30 and under 40 years.				40 and under 50 years.				50 years and up.			
Under 1 year.				1 and under 5 years.				5 and under 10 years.				10 and under 15 years.				15 and under 20 years.				20 and under 30 years.				30 and under 40 years.				40 and under 50 years.				50 years and up.			
Under 1 year.				1 and under 5 years.				5 and under 10 years.				10 and under 15 years.				15 and under 20 years.				20 and under 30 years.				30 and under 40 years.				40 and under 50 years.				50 years and up.			
Under 1 year.				1 and under 5 years.				5 and under 10 years.				10 and under 15 years.				15 and under 20 years.				20 and under 30 years.				30 and under 40 years.				40 and under 50 years.				50 years and up.			
Under 1 year.				1 and under 5 years.				5 and under 10 years.				10 and under 15 years.				15 and under 20 years.				20 and under 30 years.				30 and under 40 years.				40 and under 50 years.				50 years and up.			
Under 1 year.				1 and under 5 years.				5 and under 10 years.				10 and under 15 years.				15 and under 20 years.				20 and under 30 years.				30 and under 40 years.				40 and under 50 years.				50 years and up.			
Under 1 year.				1 and under 5 years.				5 and under 10 years.				10 and under 15 years.				15 and under 20 years.				20 and under 30 years.				30 and under 40 years.				40 and under 50 years.				50 years and up.			
Under 1 year.				1 and under 5 years.				5 and under 10 years.				10 and under 15 years.				15 and under 20 years.				20 and under 30 years.				30 and under 40 years.				40 and under 50 years.				50 years and up.			
Under 1 year.				1 and under 5 years.				5 and under 10 years.				10 and under 15 years.				15 and under 20 years.				20 and under 30 years.				30 and under 40 years.				40 and under 50 years.				50 years and up.			
Under 1 year.				1 and under 5 years.				5 and under 10 years.				10 and under 15 years.				15 and under 20 years.				20 and under 30 years.				30 and under 40 years.				40 and under 50 years.				50 years and up.			
Under 1 year.				1 and under 5 years.				5 and under 10 years.				10 and under 15 years.				15 and under 20 years.				20 and under 30 years.				30 and under 40 years.				40 and under 50 years.				50 years and up.			
Under 1 year.				1 and under 5 years.				5 and under 10 years.				10 and under 15 years.				15 and under 20 years.				20 and under 30 years.				30 and under 40 years.				40 and under 50 years.				50 years and up.			
Under 1 year.				1 and under 5 years.				5 and under 10 years.				10 and under 15 years.				15 and under 20 years.				20 and under 30 years.				30 and under 40 years.				40 and under 50 years.				50 years and up.			
Under 1 year.				1 and under 5 years.				5 and under 10 years.				10 and under 15 years.				15 and under 20 years.				20 and under 30 years.				30 and under 40 years.				40 and under 50 years.				50 years and up.			
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Under 1 year.				1 and under																															

OFFICE OF SANTAL COMMISSIONER FOR BENGAL,

No. 1022 J. m. m. 100.0

W. H. GREGG, Dip. Publ. Health, Camb.,

Sanitary Commissioner for Bengal.

## PUBLIC WORKS DEPARTMENT, BENGAL.

## IRRIGATION BRANCH.

IRRIGATION OPERATIONS FOR THE OFFICIAL YEAR 1889-90.

Areas leased for Irrigation up to the end of October 1889.

CIRCLE.	DISTRICT.	CANAL.	Estimated full discharge.	Average discharge in month.	Discharge utilized.	Approximate area of land irrigated during the year up to the end of the month.	Approximate area of land irrigated under the same system up to the end of the year.	DETAILS OF AREAS LEASED.										RAINFALL, 1888-89.	REMARKS.	
								Five years, all crops.	Five years, Kharif.	Kharif.	Rabi.	Sugar-cane.	Blind.	Hot-weather.	Total.	Grand Total.	RAINFALL, 1889-90.			
																	Inches.			Inches.
ORISSA.	CUTTACK.	Taldanda, 1st	1,343	442	180	10,483	8,025	10,483	384	12	286	10,979	10,979	87 25	Whole month discharging. 24 days discharging.					
		Taldanda, 2nd	668	239	94	27,748	28,007	27,748	222	10	236	27,984	27,984	42 72						
		Madhosing	775	252	240	41,505	40,259	41,505	203	34	401	52,338	52,338	34 44						
		Kendrapara	1,067	652 25	81 74	2,144	1,407	2,144	215	5	215	2,359	2,359	41 47						
		Gobri	572 52	400 7	30 99	1,540	1,400	1,540	7	7	7	1,547	1,547	No figure filed.						
		Guani Extension	648	228 17	17 23	1,403	7,193	1,403	543	543	543	7,736	7,736	37 40						
		Pattamunda	885	228 17	215 58	17,159	16,443	17,159	480	5	483	17,631	17,631	0 46						
		Range I, Level.	609	251 21	215 58	2,374	1,980	2,374	61	61	61	2,435	2,435	1 79						
		High Level.	727 16	64 60	17 27	34,080	11,310	34,080	88	88	88	34,168	34,168	49 41						
		Range II, Level.	727 16	611 05	564 09	126,204	116,480	126,204	156	156	156	126,360	126,360	0 00						
SOUTH-WESTERN.	Howrah.	Total	.....	.....	.....	.....	.....	111,653	112	169	2,000	111,561	111,561	.....	Whole month discharging. 24 days discharging.					
		Midnapore	1,411	1,001	516	69,998	44,790	69,998	.....	.....	.....	69,998	69,998	47 50						
		Barisal	622	103	90	4,835	4,016	4,835	.....	.....	.....	4,835	4,835	1 43						
		Island Kingdoms	.....	.....	.....	312	300	312	.....	.....	.....	312	312	.....						
		Island Kingdoms	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....						
		Island Kingdoms	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....						
		Island Kingdoms	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....						
		Island Kingdoms	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....						
		Island Kingdoms	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....						
		Island Kingdoms	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....						
SOUTH-EASTERN.	Gyl.	Total	.....	.....	.....	64,525	51,535	64,525	.....	.....	.....	64,525	64,525	.....	Whole month discharging. 24 days discharging.					
		Western Main	4,142	3,139	138	.....	14,008	14,008	372	159	38	18,008	18,008	.....						
		Barisal	1,225	973	145	.....	21,018	21,018	321	512	512	21,851	21,851	.....						
		Patna	2,690	1,945	1,215	.....	27,445	27,445	2,194	102	8,373	35,922	35,922	.....						
		Patna	1,466	1,333	1,145	.....	17,453	17,453	216	271	297	18,227	18,227	.....						
		Patna	.....	.....	.....	.....	18,990	18,990	1,301	4,043	1,361	20,294	20,294	.....						
		Patna	.....	.....	.....	.....	23,094	23,094	1,003	3,660	320	27,774	27,774	.....						
		Patna	.....	.....	.....	.....	70,022	70,022	7,169	4,769	1,301	82,873	82,873	.....						
		Patna	.....	.....	.....	.....	103,980	103,980	54,111	3,919	300	108,199	108,199	.....						
		Patna	.....	.....	.....	.....	189,021	189,021	64,111	3,919	300	257,050	257,050	.....						
SOUTH-EASTERN.	Grand Total	Total	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Whole month discharging. 24 days discharging.					
		Western Main	4,142	3,139	138	.....	14,008	14,008	372	159	38	18,008	18,008	.....						
		Barisal	1,225	973	145	.....	21,018	21,018	321	512	512	21,851	21,851	.....						
		Patna	2,690	1,945	1,215	.....	27,445	27,445	2,194	102	8,373	35,922	35,922	.....						
		Patna	1,466	1,333	1,145	.....	17,453	17,453	216	271	297	18,227	18,227	.....						
		Patna	.....	.....	.....	.....	18,990	18,990	1,301	4,043	1,361	20,294	20,294	.....						
		Patna	.....	.....	.....	.....	23,094	23,094	1,003	3,660	320	27,774	27,774	.....						
		Patna	.....	.....	.....	.....	70,022	70,022	7,169	4,769	1,301	82,873	82,873	.....						
		Patna	.....	.....	.....	.....	103,980	103,980	54,111	3,919	300	108,199	108,199	.....						
		Patna	.....	.....	.....	.....	189,021	189,021	64,111	3,919	300	257,050	257,050	.....						

CALCUTTA;

The 15th January 1890.

G. A. G. SHAW,

Under-Secretary to the Govt. of Bengal.

## CIRCULAR AND EASTERN CANALS.

*Approximate Return of Traffic for the week ending Saturday, the 11th January 1890,  
as compared with the corresponding week of the previous year.*

NATURE OF CARGO.	WEEK ENDING SATURDAY, THE 11TH JANUARY 1890.			WEEK ENDING SATURDAY, THE 12TH JANUARY 1889.		
	Number of boats.	Weight of cargo.	Tollage.	Number of boats.	Weight of cargo.	Tollage.
	No.	Mds.	Rs.	No.	Mds.	Rs.
Rice and paddy ...	2,151	2,99,830	6,208	1,745	4,01,590	7,390
Jute ...	248	1,51,400	2,642	199	1,25,225	2,262
Firewood ...	161	93,775	1,363	147	81,425	1,207
Other articles ...	1,107	2,50,490	3,707	1,200	2,22,620	3,998
Total ...	3,667	7,95,465	13,910	3,291	8,30,860	14,147

NOTE.—The total amounts of tollage for the week ending the 4th January 1890 and the corresponding week of the previous year should be Rs. 11,963 and Rs. 11,963 instead of Rs. 21,963 and Rs. 11,963 as published at page 69 of the Supplement to the Calcutta Gazette of the 8th January 1890.

## Eastern Bengal State Railway.

*Abstract of principal commodities carried over the Eastern Bengal State Railway during the month of  
October 1889, as compared with the same month of the previous year.*

STAPLES.	1889.		1888.		TOTAL.		Increase.	Decrease.
	Up.	Down.	Up.	Down.	1889.	1888.		
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.		
Coal	6,440	2,225	8,310	2,100	8,640	10,410	140	1,744
Cotton, raw	64	211	41	95	235	130	140	.....
Cotton twist and yarn—								
1.—European	.....	.....	.....	.....	.....	.....	.....	.....
2.—Indian	.....	.....	.....	.....	.....	.....	.....	.....
Cotton piece goods—								
1.—European—								
a.—In bales and bundles	1,730	77	2,823	597	2,797	3,029	.....	232
b.—In boxes	.....	.....	.....	.....	.....	.....	.....	.....
2.—Indian—								
a.—In bales and bundles	.....	.....	.....	.....	.....	.....	.....	.....
b.—In boxes	.....	.....	.....	.....	.....	.....	.....	.....
Grains—								
1.—Rice	2,354	1,543	1,569	6,600	3,907	8,558	.....	4,651
2.—Others	760	2,390	1,610	4,583	6,140	6,163	.....	23
Hides and skins—								
1.—Hides of cattle—								
a.—Dressed	.....	.....	.....	.....	.....	.....	.....	.....
b.—Undressed	.....	.....	.....	.....	.....	.....	.....	.....
2.—Skins of sheep, &c.—	8	664	10	869	673	879	.....	207
a.—Dressed	.....	.....	.....	.....	.....	.....	.....	.....
b.—Undressed	.....	.....	.....	.....	.....	.....	.....	.....
Jute—								
1.—Raw—								
a.—Screwed	.....	12,245	1	9,670	12,245	9,671	2,574	.....
b.—Unscrewed	141	49,664	54	71,361	49,805	71,415	.....	21,614
2.—Gunny-bags and cloth	125	853	149	1,734	978	1,873	.....	895
Metals—								
1.—Copper, unwrought	.....	.....	.....	.....	.....	.....	.....	.....
2.—Brass, unwrought	.....	.....	.....	.....	.....	.....	.....	.....
3.—Brass and copper, wrought	703	144	690	95	849	983	.....	134
4.—Iron	.....	.....	.....	.....	.....	.....	.....	.....
5.—Tin	.....	.....	.....	.....	.....	.....	.....	.....
6.—Others	.....	.....	.....	.....	.....	.....	.....	.....
Oils—								
1.—Kerosene	448	9	410	11	417	421	.....	4
2.—Others	312	24	163	34	226	199	47	.....
Oilseeds—								
1.—Lined	.....	.....	.....	.....	.....	.....	.....	.....
2.—Rape and mustard	.....	.....	.....	.....	.....	.....	.....	.....
3.—T. or gingelly	.....	.....	.....	.....	.....	.....	.....	.....
4.—Niger	90	781	175	1,706	671	1,663	.....	1,012
5.—Castor	.....	.....	.....	.....	.....	.....	.....	.....
6.—Poppy	.....	.....	.....	.....	.....	.....	.....	.....
7.—Others	.....	.....	.....	.....	.....	.....	.....	.....
Provisions—								
1.—Betelnuts	99	772	121	427	671	644	263	.....
2.—Others	424	729	481	392	1,157	773	384	.....
Rail—plant and rolling-stock	3,917	1,693	2,424	815	6,400	3,239	3,161	.....
Rail	3,139	90	3,229	29	3,164	3,318	.....	154
Sugar—								
1.—Unrefined	483	904	603	316	693	961	.....	268
2.—Unrefined	.....	.....	.....	.....	.....	.....	.....	.....
Tea—								
1.—Foreign	.....	2,200	18	1,740	2,206	1,706	499	.....
2.—Indian	.....	.....	.....	.....	.....	.....	.....	.....
Wood—								
1.—Timber	84	63	141	126	147	209	.....	102
2.—Firewood	1,999	.....	1,614	.....	1,960	1,614	.....	175
Tobacco	67	1,396	66	1,940	1,440	1,316	.....	124
Other articles of merchandise—								
1.—Unmanufactured	2,370	1,060	2,408	1,008	3,490	3,463	.....	26
2.—Manufactured	.....	.....	.....	.....	.....	.....	.....	.....
Hay, straw, and wool (C. & S. M. Section)	641	.....	600	.....	641	600	.....	41
Total	27,220	22,123	28,020	100,866	100,846	124,213	23,367	31,367

*Comparative Statement of traffic, Eastern Bengal State Railway, for October 1889.*

INCREASES.		Tons
Jute, screwed	...	2,624
Is due to extensive despatches during the month from Goalundo, Rungpore, Kaunia, and Haldibari chiefly.		
Hay, straw and wooloo	...	35
From Mogra Hat principally.	...	...
Firewood	...	176
From Bahars and Canning principally.	...	...
DECREASES.		
Coal	...	1,744
Due to sufficient stock for railway and flotilla purposes.		
Rice	...	4,861
This decrease is due to a partial failure of the crops.		
Jute, unscrewed	...	21,614
Heavy decrease is due to the dulness of the market, and an increase in the despatches of baled jute, and also to the jute crop having come down unusually earlier in 1889.		

CALCUTTA, the 30th December 1889.

F. P. QUINLAN,  
Examiner of Accounts.**Bengal Central Railway.***Abstract of principal commodities carried over the Bengal Central Railway during the month of October 1889, as compared with the same month of the previous year.*

STAPLES.	1889.		1888.		Total.		Increase.	Decrease.
	Up.	Down.	Up.	Down.	1889.	1888.		
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Coal	1,014	1	964	...	1,015	968	47	...
Cotton, raw	1	1	2	...	3	2	...	...
Cotton twist and yarn—								
1.—European	...	...	...	...	...	...	...	...
2.—Indian	...	...	...	...	...	...	...	...
Cotton piece-goods—								
1.—European—								
a.—In bales and bundles	354	...	270	...	358	270	88	...
b.—In boxes	...	...	...	...	...	...	...	...
2.—Indian—								
a.—In bales and bundles	...	...	...	...	...	...	...	...
b.—In boxes	...	...	...	...	...	...	...	...
Grains—								
1.—Rice	127	28	6	314	165	320	...	165
2.—Others	82	95	50	139	175	198	...	23
Hides and skins—								
1.—Hides of cattle—								
a.—Dressed	...	...	...	...	...	...	...	...
b.—Undressed	...	...	...	...	...	...	...	...
2.—Skins of sheep, &c.—	1	28	...	38	29	28	1	...
a.—Dressed	...	...	...	...	...	...	...	...
b.—Undressed	...	...	...	...	...	...	...	...
Jute—								
1.—Raw—								
a.—Screwed	...	...	...	...	...	...	...	...
b.—Unscrewed	...	5,128	...	12,021	5,428	12,021	...	26
2.—Gunny bags and cloth	4	1	5	...	5	3	2	6,593
Metals—								
1.—Copper, unwrought	...	...	...	...	...	...	...	...
2.—Brass, unwrought	...	...	...	...	...	...	...	...
3.—Brass and copper, wrought	...	...	...	...	...	...	...	...
4.—Iron	80	9	54	24	39	78	...	39
5.—Tin	...	...	...	...	...	...	...	...
6.—Others	...	...	...	...	...	...	...	...
Oils—								
1.—Kerosine	97	...	96	...	97	96	1	...
2.—Others	91	...	51	...	91	51	40	...
Oilseeds—								
1.—Linseed	...	...	...	...	...	...	...	...
2.—Rape and mustard	...	...	...	...	...	...	...	...
3.—Til or gingelly	...	...	...	...	...	...	...	...
4.—Sesam	51	45	91	97	76	158	...	112
5.—Castor	...	...	...	...	...	...	...	...
6.—Poppy	...	...	...	...	...	...	...	...
7.—Others	...	...	...	...	...	...	...	...
Provisions—								
1.—Hotelmate	...	739	...	386	739	386	353	...
2.—Others	...	...	...	...	...	...	...	...
Railway plant and rolling-stock	35	20	94	57	55	151	...	96
Salt	217	4	238	...	221	238	...	7
Sugar—								
1.—Drained	...	171	16	295	180	311	...	135
2.—Undrained	16	...	...	...	...	...	...	...
Wood—								
1.—Timber	...	...	24	22	...	40	...	40
2.—Firewood	...	...	...	...	...	...	...	...
Tea—	16	30	28	22	52	50	2	...
All other articles of merchandise—								
1.—Unmanufactured	...	179	...	...	...	...	...	...
2.—Manufactured	...	...	...	...	...	...	...	...
Total	2,631	6,811	2,333	13,759	9,963	10,089	626	7,259

*Comparative Statement, Bengal Central Railway, for October 1889.*

INCREASES.		Tons.
Coal	...	138
This slight increase is probably due to a greater demand required for railway and flotilla consumption.		
DECREASES.		
Jute	...	6,846
There was no great demand, and the market was steadily dull throughout this month.		

CALCUTTA, the 7th January 1890.

F. P. QUINLAN,  
Examiner of Accounts.



## EAST INDIAN RAILWAY.

Statement of Goods Traffic in Staples carried during the four weeks ended 23rd November 1889,  
as compared with the same period of 1888.

STAPLES.	1889.		1888.		Increase.		Decrease.	
	Weight.	Freight.	Weight.	Freight.	Weight.	Freight.	Weight.	Freight.
	Mds.	Rs.	Mds.	Rs.	Mds.	Rs.	Mds.	Rs.
<b>ANIMALS, LIVING.</b>	No.		No.		No.		No.	
Horses, ponies, and mules	688	8,810	687	7,553	1	1,257	1	1,257
Cattle	1,088	5,144	1,088	5,176	0	32	0	32
Sheep and goats	4,026	2,232	3,815	2,257	211	7	211	7
Other kinds	1,115	778	314	257	801	521	801	521
<b>BORAL.</b>								
Gums and rattans	10	75	37	72	27	3	27	3
Caoutchouc (Indian-rubber)	57	70	48	110	9	40	9	40
Chinese and Japanese ware	5,638,389	1,45,817	5,50,389	1,71,517	1,134,500	26,680	1,134,500	26,680
Coal and coke, up	10,000,000	2,00,000	24,000,000	3,00,000	14,000,000	1,00,000	14,000,000	1,00,000
Ditto, down	2,000,000	1,00,000	2,000,000	1,00,000	0	0	0	0
Cotton, raw	12,000	7,484	14,000	9,100	2,000	1,616	2,000	1,616
<b>COTTON, MANUFACTURED.</b>								
Twist and yarn (European)	1,000	1,75,005	1,000	2,21,340	211,335	46,335	211,335	46,335
Ditto (Indian)	22,000	2,302	27,000	25,100	5,000	2,798	5,000	2,798
Piece-goods (European)	367	252	401	442	34	90	34	90
Ditto (Indian)	1,433	1,690	1,672	1,731	239	72	239	72
<b>DRUGS AND MEDICINES.</b>								
Asafetida	735	529	610	456	125	73	125	73
Other sorts, not intoxicating								
Intoxicating drugs (other than opium, i.e., arsenic, blaine, camphor, and charas, &c.)	47,000	1,02,751	20,001	60,207	27,000	42,544	27,000	42,544
<b>DYEING MATERIALS.</b>								
Indigo	110	19	140	30	30	11	30	11
Safflower	7,460	2,540	7,040	2,440	420	100	420	100
Turneric	5,881	2,651	6,277	2,850	396	199	396	199
Other kinds	702	1,635	752	1,713	50	78	50	78
<b>Earthenware and porcelain.</b>								
Do., raw	65,000	10,000	1,00,000	25,000	35,000	15,000	35,000	15,000
Do., manufactured (gunny)	50,000	32,410	60,000	38,621	10,000	6,211	10,000	6,211
<b>FIBROUS PRODUCTS.</b>								
Do., raw	20,000	5,703	27,541	6,508	7,541	805	7,541	805
Do., manufactured	1,100	410	1,234	430	134	120	134	120
<b>FRUITS &amp; NUTS.</b>								
Cocoanuts	41,000	2,200	5,000	2,000	36,900	2,000	36,900	2,000
All other kinds	41,000	37,321	30,000	3,000	11,000	34,321	11,000	34,321
<b>GRAIN &amp; PULSES.</b>								
Wheat	2,000,000	70,000	3,000,000	80,000	1,000,000	10,000	1,000,000	10,000
Gram and pulses	1,70,000	55,000	2,00,000	60,000	30,000	5,000	30,000	5,000
Rice husked	4,00,000	80,000	4,00,000	80,000	0	0	0	0
Do., unhusked	10,000	2,000	10,000	2,000	0	0	0	0
Other grain and spring crops	1,00,000	20,000	1,00,000	20,000	0	0	0	0
<b>Government stores.</b>								
Gums and resins	20,000	5,000	20,000	5,000	0	0	0	0
<b>HIDES &amp; SKINS.</b>								
Hides of cattle	12,000	5,000	12,000	5,000	0	0	0	0
Skins of sheep, goats, and small animals	600	150	1,100	550	500	400	500	400
<b>HORNS.</b>								
Do., raw	500	100	500	100	0	0	0	0
Do., shell	11,000	8,000	10,000	13,000	1,000	5,000	1,000	5,000
Do., stick and other kinds	1,000	5,000	21,000	0,000	20,000	5,000	20,000	5,000
<b>LEATHERS.</b>								
Do., unmanufactured	2,000	3,000	3,000	4,000	1,000	1,000	1,000	1,000
Ditto, manufactured	15,000	14,000	10,000	14,000	5,000	0	5,000	0
<b>Liquors.</b>								
Mate	1,000	20,000	20,000	17,000	0	3,000	0	3,000
Minerals	20,000	21,000	1,000	0,000	19,000	21,000	19,000	21,000
<b>METALS AND MANUFACTURES.</b>								
Brass and copper	20,000	40,000	1,00,000	54,000	80,000	14,000	80,000	14,000
Iron	1,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
Other metals	10,000	50,000	50,000	20,000	40,000	30,000	40,000	30,000
<b>OILS.</b>								
Opium	10,000	13,000	10,000	13,000	0	0	0	0
Paints and colours	10,000	2,000	10,000	13,000	0	11,000	0	11,000
<b>PROVISIONS.</b>								
Ghee	5,000	16,000	22,000	13,000	17,000	9,000	17,000	9,000
Other kinds	6,000	7,000	8,000	8,000	2,000	1,000	2,000	1,000
<b>Railway materials.</b>								
Construction Account	10,000	1,000	10,000	1,000	0	0	0	0
Ditto, Foreign	1,00,000	1,00,000	1,00,000	1,00,000	0	0	0	0
<b>SALT.</b>								
Salt	6,47,776	1,22,000	6,33,877	1,11,207	1,13,899	10,793	1,13,899	10,793
<b>SALT-PETRE &amp; C.</b>								
Salt-petre	65,000	27,000	6,000	22,000	59,000	5,000	59,000	5,000
Other saline substances	10,000	5,000	10,000	5,000	0	0	0	0
<b>SEEDS.</b>								
Mustard and rape	1,44,000	32,000	1,30,000	27,000	14,000	5,000	14,000	5,000
Til or linjelly	5,000	1,000	7,000	1,000	2,000	0	2,000	0
Other seeds	71,000	22,000	84,000	24,000	13,000	2,000	13,000	2,000
<b>OTHER SEEDS.</b>								
Do., raw	1,000	10,000	1,000	10,000	0	0	0	0
Do., manufactured (European)	200	250	100	100	100	150	100	150
Do., ditto (Indian)	1,000	7,000	10,000	7,000	9,000	0	9,000	0
<b>SPICES.</b>								
Do., raw	1,000	14,000	10,000	11,000	9,000	2,000	9,000	2,000
<b>STONE AND MARBLE.</b>								
Sugar, refined	60,000	21,000	70,000	20,000	10,000	5,000	10,000	5,000
Do., unrefined	1,21,000	22,000	50,000	10,000	71,000	12,000	71,000	12,000
<b>SUGAR.</b>								
Do., Indian	4,000	4,000	5,000	5,000	1,000	0	1,000	0
Do., foreign	60	60	60	60	0	0	0	0
<b>TEA.</b>								
Do., raw	30,000	14,000	27,000	10,000	3,000	4,000	3,000	4,000
<b>TOBACCO.</b>								
Do., raw	20,000	5,000	10,000	5,000	10,000	0	10,000	0
<b>WOOD.</b>								
Do., raw	1,000	700	1,000	1,000	0	0	0	0
Do., manufactured (European)	4,000	5,000	5,000	7,000	1,000	2,000	1,000	2,000
Do., manufactured (Indian)	4,000	5,000	5,000	7,000	1,000	2,000	1,000	2,000
<b>ALL OTHER ARTICLES OF MERCHANDISE.</b>								
Do., raw	2,14,000	1,67,000	2,72,000	1,74,000	58,000	7,000	58,000	7,000
Do., manufactured	2,000	0,000	20,000	0,000	18,000	0,000	18,000	0,000
<b>POINCES.</b>								
Do., raw	3,000	3,000	20,000	10,000	17,000	7,000	17,000	7,000
<b>Total.</b>	68,27,071	21,00,491	74,40,344	22,74,957	6,12,273	1,74,466	18,71,150	8,26,027

General remarks on the fluctuation of staples carried over the East Indian Railway during four weeks ended 23rd November 1889.

## INCREASE.

Cotton.—The increase under this head is due to despatches of cotton from stations in the North-Western Provinces to Calcutta for export and to Bombay for local consumption.

Indigo.—Due to the season this year being earlier than last.

Fruits, other kinds.—This was in betelnuts from Howrah.

**Minerals.**—Principally in lime from Rajband, Durgapur, Raneegunge, and Asansol on the chord line and from Katni on the Jabulpore line for Calcutta.

**Brass and Copper.**—This increase was in despatches of the unmanufactured article from Howrah and of manufactured ware from Mirzapor; the corresponding month of 1889 showed a heavy decline in the brass and copper traffic owing to the high rates then prevailing.

**Oil.**—This increase was in kerosine oil from Howrah.

**Potatoes.**—Due chiefly to despatches of hill potatoes from the North-Western and Oudh and Rohilkhand Railways.

**Other ruin and spring crops.**—There was a decrease in the weight carried attended with an increase in earnings, and this was principally due to there having been in 1889 a heavy short-distance traffic coming to us from the Bengal and North-Western Railway.

**Railway material, Foreign.**—The increase was due to considerable despatches, during the early portion of the month, of permanent-way materials for the Delhi-Umballa-Ka'nk Railway.

**Salt.**—This was chiefly in the despatches of salt from Howrah.

**Salt-petre.**—The increase was principally from Patna and from the Bengal and North-Western and Oudh and Rohilkhand Railways to Howrah.

**Stone.**—Chiefly in despatches of road metal from Pakur on the loop line to Calcutta.

**Sugar and jaggree.**—In earnings the largest increase was from stations on the Patna-Gya line, which despatch principally to the Great Indian Peninsula Railway via Jabulpore. In weight carried we dealt with a heavy cross and short-lead traffic from the Oudh and Rohilkhand Railway via Aligarh and the North-Western Railway.

**Tobacco.**—Principally from Barh and the Tirhoot State Railway.

## DECREASES.

**Coal and coke.**—In upwards traffic there was an increase in the weight carried attended with a decrease in the earnings, and this was due to the shorter average lead. The decrease in the downward traffic is due to consignments for export having been held back owing to a difficulty in obtaining steamers in which to ship coal.

**Piece-goods.**—The decrease was principally in despatches from Howrah, which were very brisk during the corresponding period of 1888.

**Jute, raw.**—The decrease was principally in traffic from the Assam-Bihar State Railway via Sahabganj owing to the jute crop in the Purneah district having suffered this year owing to floods.

**Wheat.**—Due to there being no demand for export to Europe.

**Gram and Pulses.**—There were exceptional despatches last year from Delhi and the Punjab to Howrah to meet requirements on the east coast, where a famine was apprehended.

**Rice (husked and unhusked).**—There was an increase in the downward traffic, but despatches up-country fell off owing to there having been an exceptional demand last year.

**Hides and skins.**—The decrease was principally in despatches from the Tundla district to Howrah owing to want of demand.

**Lac.**—Principally in shellac from Mirzapor to Howrah.

**Iron.**—The decrease was principally in consignments from the Barakar Iron Works and in despatches of sugarcane rollers from Delhi and Delhi-Shahdara.

**Opium.**—Despatches were held over by the Government authorities owing to unsettled weather.

**Seeds.**—The decrease was chiefly in linseed, and was due to exhaustion of stocks.

N. ST. L. CARTER, Traffic Manager.

TRAFFIC MANAGER'S OFFICE, CALCUTTA, 8th January 1890.

## Weekly Return of Traffic Receipts on Indian Railways.

## EAST INDIAN RAILWAY

Approximate Return of Traffic for the last 10 days of December 1889, on 1,525 miles open

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated).	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. S.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the period	206,180	8,99,740 10 0	35,75,792 30	8,20,203 0 0	56,936 14 0	12,62,492 8 0	105,300	118,204	211,504
Or per mile of railway	135	589 12 6	23,442 30	540 0 0	37 3 5	829 8 11	68	77	145
For previous 25 weeks of half-year	5,095,471	67,41,948 1 0	5,39,80,113 30	1,22,49,471 10 0	2,37,700 7 5	1,92,68,819 2 5	1,665,440	2,004,427	3,670,867
Total for 26 weeks	5,301,651	71,81,297 11 0	5,74,99,896 30	1,30,78,674 10 0	2,74,439 5 5	2,05,24,301 10 5	1,770,740	2,122,631	3,893,371
COMPARISONS									
Total for corresponding period of previous year	275,606	3,84,876 2 1	30,03,106 30	8,39,471 14 5	—87,802 14 8	11,35,835 1 10	82,304	128,542	210,846
Per mile of railway corresponding period of previous year	175	251 14 5	19,684 30	550 6 8	—57 0 0	744 0 7	51	81	132
Total to corresponding date of previous year	6,070,064	69,11,461 0 0	6,25,94,315 30	1,33,68,601 11 5	3,44,838 5 6	20,10,021 1 5	1,712,720	2,180,413	3,893,133

Approximate Statement of gross receipts of the East Indian Railway, prepared in accordance with Public Works Department Circular No. XXI, Railway, dated 23rd July 1883.

RECEIPTS FOR THE LAST 9 DAYS OF DECEMBER 1889.			RECEIPTS FOR THE LAST 10 DAYS OF DECEMBER 1889.			TOTAL RECEIPTS FROM 1st APRIL 1888 TO 31st DECEMBER 1888.			TOTAL RECEIPTS FROM 1st APRIL 1889 TO 31st DECEMBER 1889.			Total increase in 1889.	Total decrease in 1889.
Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Total receipts.	Per mile worked.	Mean mileage worked.	Total receipts.	Per mile worked.	Rs.	Rs.
1,525	Rs. 11,55,890	745	1,525	Rs. 12,65,492	830	1,525	3,33,89,730	547	1,525	3,25,01,067	547	21,341	—

## PATNA-GYA STATE RAILWAY

Approximate Return of Traffic for the last 10 days of December 1889, on 57½ miles open

	COACHING TRAFFIC		MERCHANDISE AND MINERAL TRAFFIC		Other earnings (estimated).	Total earnings.	TRAFFIC TRAIN-MILES R.V.		
	Number of passengers.	Receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. c.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the period or per mile of railway for previous 25 weeks of half-year ...	19,707	11,835 7 0	22,070	3,190 9 0	50 0 0	14,825 0 0	2,547	1,893	4,439
	531	188 2 9	910 20	60 2 1	0 14 0	250 2 10	.....	.....	.....
.....	18,835	11,647 5 0	21,160 20	3,130 7 0	50 0 0	14,575 0 0	2,547	1,893	4,439
Total for 25 weeks	503,842	2,00,508 13 0	11,61,887 20	61,200 6 0	1,712 9 3	2,02,220 12 3	42,400	20,078	62,478
COMPARISON									
Total for corresponding period of previous year ...	10,280	8,077 15 4	50,740 30	2,601 14 0	632 12 9	10,293 10 1	2,392	290	2,682
For mile of railway corresponding period of previous year	246	156 15 4	887 10	46 3 7	11 6 7	216 14 6	.....	.....	.....
Total to corresponding date of previous year	347,173	1,94,832 3 0	10,81,477 30	61,003 9 0	2,067 1 6	2,06,870 14 0	44,050	17,070	61,120

\* Added number of passengers 7,745 and Rs. 5,257 }  
 † Ditto maunds 53,280 .. 501 } on account of differences between the approximate and audited returns to week ended 23rd November 1889.  
 ‡ Ditto .. .. 32 }

Approximate Statement of gross receipts of the Patna-Gya State Railway, prepared in accordance with Public Works Department Circular No. XXI, Railway, dated 23rd July 1883.

RECEIPTS FOR THE LAST 9 DAYS OF DECEMBER 1889.			RECEIPTS FOR THE LAST 10 DAYS OF DECEMBER 1889.			TOTAL RECEIPTS FROM 1ST APRIL 1889 TO 31ST DECEMBER 1889.			TOTAL RECEIPTS FROM 1ST APRIL 1889 TO 31ST DECEMBER 1889.			Total increase in 1889.	Total decrease in 1889.
Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Receipts.	Per mile worked.	Rs.	Rs.
57½	12,230	210	57	14,825	259	57½	3,69,768	105	57½	*3,65,401	171	13,673	.....

\* Added Rs. 6,145 on account of difference between the approximate and audited figures to week ended 23rd November 1889.

## TARKESSUR BRANCH RAILWAY.

Approximate Return of Traffic for the last 10 days of December 1889, on 22½ miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated).	Total earnings.	TRAFFIC TRAIN-MILES R.V.		
	Number of passengers.	Receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. c.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the period or per mile of railway for previous 25 weeks of half-year ...	22,680	5,956 12 0	10,490 20	424 6 0	18 0 0	6,371 2 0	1,290	90	1,380
	.....	200 13 2	.....	19 1 2	0 7 2	200 5 0	.....	.....	.....
.....	*440,745	*1,07,959 2 0	*23,33,232 10	*10,849 1 0	*153 3 0	*1,14,002 6 0	*21,058	*2,112	*23,070
Total for 25 weeks	461,428	1,13,958 14 0	24,45,232 30	7,273 7 0	165 3 6	1,22,003 8 6	24,254	2,203	26,457
COMPARISON.									
Total for corresponding period of previous year ...	21,534	5,519 0 0	8,402 10	870 5 0	13 10 0	6,302 15 0	1,140	70	1,210
For mile of railway corresponding period of previous year	.....	24 0 9	.....	10 10 3	0 9 10	265 4 10	.....	.....	.....
Total to corresponding date of previous year	664,151	1,14,950 10 5	1,33,623 20	8,371 11 0	182 6 0	1,20,635 0 5	24,258	1,204	25,462

\* Added number of passengers 1,150 and deducted Rs. 614 }  
 † Ditto maunds 11,570 .. 5 } on account of differences between the approximate and audited returns to week ended 23rd November 1889.  
 ‡ Ditto .. .. 6 }

Approximate Statement of gross receipts of the Tarkessur Branch Railway, prepared in accordance with Public Works Department Circular No. XXI, Railway, dated 23rd July 1883.

RECEIPTS FOR THE LAST 9 DAYS OF DECEMBER 1889.			RECEIPTS FOR THE LAST 10 DAYS OF DECEMBER 1889.			TOTAL RECEIPTS FROM 1ST APRIL 1889 TO 31ST DECEMBER 1889.			TOTAL RECEIPTS FROM 1ST APRIL 1889 TO 31ST DECEMBER 1889.			Total increase in 1889.	Total decrease in 1889.
Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Receipts.	Per mile worked.	Rs.	Rs.
22½	1,000	250	22½	6,371	280	22½	2,03,906	214	22½	*2,03,906	216	.....	2,300

\* Deducted Rs. 651 on account of difference between the approximate and audited figures to week ended 23rd November 1889.

## EASTERN BENGAL STATE RAILWAY.

(INCLUDING N. B., DACCA, K. AND D., AND ASSAM-BIHAR SECTIONS.)

Approximate Return of Traffic for last 10 days of December 1889, on 747 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated), including steam-bent.	Total earnings.	TRAFFIC TRAIN-MILE RUN.		
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. s.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for last 10 days ...	182,780	1,06,310 0 0	8,67,090 0	2,10,100 0 0	31,620 0 0	3,66,030 0 0	51,000	47,000	80,000
Or per mile of railway ...	245	141 0 0	1,147 0	283 0 0	425 0 0	528 0 0	...	...	...
For previous 26 weeks of half-year ...	3,593,408	16,68,444 0 0	1,50,46,750 0	40,47,210 0 0	4,41,127 0 0	51,40,781 0 0	622,769	741,691	1,364,460
Total for 26 weeks ...	3,776,188	17,63,754 0 0	1,58,03,840 0	42,00,310 0 0	4,72,647 0 0	53,62,711 0 0	685,766	793,901	1,479,667
COMPARISON.									
Total for corresponding 10 days of previous year ...	171,372	70,003 0 0	8,80,715 0	2,38,181 0 0	50,620 0 0	3,59,743 0 0	20,000	40,170	70,170
Or per mile of railway corresponding period of previous year ...	230	105 0 0	1,323 0	324 0 0	435 0 0	495 0 0	...	...	...
Total to corresponding date of previous year ...	3,576,840	16,13,140 0 0	1,42,61,000 0	42,02,141 0 0	4,71,036 0 0	52,30,917 0 0	648,261	607,717	1,255,978

\* Audited up to week ending 23rd November 1889.

† Excluding steamer earnings.

## FINANCIAL YEAR.

Approximate Statement of gross receipts of the Eastern Bengal State Railway.

RECEIPTS FOR LAST 10 DAYS OF DECEMBER 1889.			RECEIPTS FOR LAST 10 DAYS OF DECEMBER 1889.			TOTAL RECEIPTS FROM 1ST APRIL 1889 TO 31ST DECEMBER 1889.			TOTAL RECEIPTS FROM 1ST APRIL 1889 TO 31ST DECEMBER 1889.			Total increase in 1889-90.	Total decrease in 1889-90.
Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Total receipts.	Per mile worked per week.	Mean mileage worked.	Total receipts.	Per mile worked per week.	Rs.	Rs.
673	Rs. 3,50,743	520	747	Rs. 3,65,910	477	673	Rs. 82,42,369	314	722	Rs. 80,35,183	307	Rs. 5,05,774	...

\* Audited up to week ending 23rd November 1889.

## BENGAL CENTRAL RAILWAY.

Approximate Return of Traffic for last 10 days of December 1889, on 125 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated).	Total earnings.	TRAFFIC TRAIN-MILE RUN.		
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. s.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for last 10 days ...	51,340	15,230 0 0	46,800 0	3,510 0 0	560 0 0	10,360 0 0	5,300	3,000	8,300
Or per mile of railway ...	250	122 0 0	367 0	28 0 0	5 0 0	153 0 0	...	...	...
For previous 26 weeks of half-year ...	680,877	2,42,729 0 0	19,82,302 0	1,23,007 0 0	5,480 0 0	3,75,270 0 0	80,693	56,438	140,131
Total for 26 weeks ...	732,217	2,57,970 0 0	14,28,422 0	1,29,007 0 0	5,640 0 0	3,82,622 0 0	95,193	59,436	154,629
COMPARISON.									
Total for corresponding last 10 days of previous year ...	25,320	15,308 0 0	61,310 0	3,510 0 0	200 0 0	10,108 0 0	3,310	4,161	7,471
Or per mile of railway corresponding period of previous year ...	227	123 0 0	494 0	28 0 0	3 0 0	153 0 0	...	...	...
Total to corresponding date of previous year ...	691,635	2,57,950 0 0	15,05,921 0	1,44,205 0 0	2,108 0 0	3,84,363 0 0	93,624	65,942	159,570

\* Audited up to week ending 23rd November 1889.

## FINANCIAL YEAR.

Approximate Statement of gross receipts of the Bengal Central Railway.

RECEIPTS FOR LAST 10 DAYS OF DECEMBER 1889.			RECEIPTS FOR LAST 10 DAYS OF DECEMBER 1889.			TOTAL RECEIPTS FROM 1ST APRIL 1889 TO 31ST DECEMBER 1889.			TOTAL RECEIPTS FROM 1ST APRIL 1889 TO 31ST DECEMBER 1889.			Total increase in 1889-90.	Total decrease in 1889-90.
Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Total receipts.	Per mile worked per week.	Mean mileage worked.	Total receipts.	Per mile worked per week.	Rs.	Rs.
125	Rs. 10,109	155	125	Rs. 10,550	153	125	Rs. 5,40,155	112	125	Rs. 5,72,477	117	Rs. 26,322	...

\* Audited up to week ending 23rd November 1889.

## DACCA STATE RAILWAY.

Approximate Return of Traffic for last 10 days of December 1889, on 86 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated).	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. S.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for last 10 days	24,060	8,280 0 0	50,840 0	5,400 0 0	230 0 0	14,000 0 0	3,600	3,300	6,900
Or per mile of railway	280	96 0 0	588 0	64 0 0	3 0 0	163 0 0	.....	.....	.....
For previous 25 weeks of half-year	590,483	1,98,078 0 0	7,39,620 0	62,998 0 0	5,191 0 0	*1,94,067 0 0	63,670	23,418	87,088
Total for 25 weeks	408,343	1,34,855 0 0	7,00,230 0	67,788 0 0	3,481 0 0	2,08,007 0 0	66,270	25,718	91,988
COMPARISON.									
Total for corresponding last 10 days of previous year	19,806	6,809 0 0	39,035 0	3,734 0 0	184 0 0	10,227 0 0	3,100	668	3,768
Or per mile of railway corresponding period of previous year	234	73 0 0	453 0	44 0 0	2 0 0	119 0 0	.....	.....	.....
Total to corresponding date of previous year	574,530	1,19,101 0 0	4,18,546 0	34,403 0 0	4,917 0 0	1,68,483 0 0	66,804	17,196	84,000

\* Audited up to week ending 23rd November 1889.

## FINANCIAL YEAR.

Approximate Statement of gross receipts of the Dacca State Railway.

RECEIPTS FOR LAST 10 DAYS OF DECEMBER 1889.			RECEIPTS FOR LAST 10 DAYS OF DECEMBER 1889.			TOTAL RECEIPTS FROM 1ST APRIL 1889 TO 31ST DECEMBER 1889.			TOTAL RECEIPTS FROM 1ST APRIL 1889 TO 31ST DECEMBER 1889.			Total increase in 1889-90.	Total decrease in 1889-90.
Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Total receipts.	Per mile worked per week.	Mean mileage worked.	Total receipts.	Per mile worked per week.	Rs.	Rs.
	Rs.	Rs.		Rs.	Rs.		Rs.	Rs.		Rs.	Rs.	Rs.	Rs.
86	10,227	119	86	14,000	163	86	2,25,474	67	86	*2,23,254	64	69,760	.....

\* Audited up to week ending 23rd November 1889.

## NALHATI STATE RAILWAY.

Approximate Return of Traffic for last 10 days of December 1889, on 27½ miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated).	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. S.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the week	4,154	1,502 0 0	24,123 0	1,338 0 0	39 0 0	2,949 0 0	727	368	1,095
Or per mile of railway	153	58 0 0	885 0	49 0 0	1 0 0	108 0 0	.....	.....	.....
For previous 25 weeks of half-year	70,209	25,440 0 0	2,36,286 0	14,048 0 0	1,265 0 0	44,054 0 0	12,052	10,144	22,196
Total for the half-year	83,067	26,932 0 0	2,60,411 0	16,377 0 0	1,594 0 0	47,903 0 0	13,379	10,509	23,888
COMPARISON.									
Total for corresponding period (for last 10 days of previous year)	3,630	1,367 0 0	18,126 0	1,006 0 0	15 0 0	2,488 0 0	624	358	1,139
Or per mile of railway corresponding week of previous year	134	50 0 0	645 0	36 0 0	1 0 0	90 0 0	.....	.....	.....
Total to corresponding date of previous year	679,360	23,407 0 0	3,99,036 0	18,211 0 0	2,163 0 0	48,613 0 0	12,274	11,006	23,280

a Includes figures for supplementary adjustments.

## FINANCIAL YEAR.

Approximate Statement of gross receipts of the Nalhati State Railway.

RECEIPTS FOR LAST 10 DAYS OF DECEMBER 1889.			RECEIPTS FOR LAST 10 DAYS OF DECEMBER 1889.			TOTAL RECEIPTS FROM 1ST APRIL 1889 TO 31ST DECEMBER 1889.			TOTAL RECEIPTS FROM 1ST APRIL 1889 TO 31ST DECEMBER 1889.			Total increase in 1889-90.	Total decrease in 1889-90.
Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Total receipts.	Per mile worked per week.	Mean mileage worked.	Total receipts.	Per mile worked per week.	Rs.	Rs.
	Rs.	Rs.		Rs.	Rs.		Rs.	Rs.		Rs.	Rs.	Rs.	Rs.
27½	2,440	88	27½	2,969	108	27½	675,241	73	27½	78,728	71	.....	1,519 ½

a Includes figures for supplementary adjustments.



## TIRHOOT STATE RAILWAY.

Approximate Return of Traffic for last 10 days of December 1889, on 273 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated).	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. S.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the week ...	51,550	22,555 0 0	2,78,064 0	52,074 0 0	6,237 0 0	61,407 0 0	7,624	10,465	18,089
Or per mile of railway ...	189	83 0 0	1,019 0	180 0 0	4 0 0	227 0 0			
For previous 14 weeks of half-year ...	1,002,073	3,69,223 0 0	42,46,073 0	4,25,462 0 0	95,029 0 0	5,03,319 0 0	132,554	137,297	269,851
Total for the half-year ...	1,054,012	3,91,784 0 0	45,27,037 0	4,61,136 0 0	1,01,960 0 0	5,54,786 0 0	140,182	147,762	287,944
COMPARISON.									
Total for corresponding period (for last 9 days) of previous year	45,215	10,519 0 0	1,45,789 0	14,247 0 0	3,189 0 0	33,954 0 0	7,504	5,399	12,903
Per mile of railway corresponding week of previous year	158	61 0 0	534 0	52 0 0	1 0 0	114 0 0			
Total to corresponding date of previous year ...	1,002,637	3,53,539 0 0	37,70,141 0	3,69,011 0 0	85,713 0 0	7,51,603 0 0	139,971	140,885	270,856

\* Steam-boat earnings excluded in calculating "Total earnings per mile of Railway."  
 a Includes figures for supplementary adjustments.

## FINANCIAL YEAR.

Approximate Statement of gross receipts of the Tirhoot State Railway.

RECEIPTS FOR LAST 10 DAYS OF DECEMBER 1889.			RECEIPTS FOR LAST 10 DAYS OF DECEMBER 1888.			TOTAL RECEIPTS FROM 1ST APRIL 1888 TO 31ST DECEMBER 1888.			TOTAL RECEIPTS FROM 1ST APRIL 1889 TO 31ST DECEMBER 1889.			Total increase in 1889-88.	Total decrease in 1889-88.
Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Total receipts.	Per mile worked per week.	Mean mileage worked.	Total receipts.	Per mile worked per week.	Rs.	Rs.
	Rs.	Rs.		Rs.	Rs.		Rs.	Rs.		Rs.	Rs.	Rs.	Rs.
273	33,954	124	273	61,407	225	263,000	12,49,503	125	273	13,79,154	143	2,29,651	.....

a Includes figures for supplementary adjustments.

[REGISTERED No. 29.]

No. 4 of 1890.



# SUPPLEMENT TO The Calcutta Gazette.

WEDNESDAY, JANUARY 22, 1890.

## OFFICIAL PAPERS.

*Non-Subscribers to the GAZETTE may receive the SUPPLEMENT separately on payment of Six Rupees per annum if delivered in Calcutta, or Twelve Rupees if sent by Post.*

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## Rainfall, Weather, and State and Prospects of the Crops.

Statement showing Rainfall, Weather, and State and Prospects of the Crops in the different districts of Bengal, as reported to Government, during the week ending the 18th January, 1890.

No.	District and date of return.	Rainfall at Sudder Station in inches.	Character of the weather and state and prospects of the crops.
<b>BENGAL.</b>			
<i>Western Districts.</i>			
1	Burdwan Jan. 18, '90	Nil	Weather—rather warm. Harvesting of <i>amun</i> over. Prospects of <i>rubbi</i> not good everywhere. Prospects of potato and sugarcane good. Prices of common rice:— <div style="float: right; text-align: right;"> Srs.  Burdwan ... 15½  Culina ... 16  Cutwa ... 15½  Raneegunge ... 19  } per rupee. </div>
2	Bankura .. 18, '90	Nil	Weather seasonable. Threshing of <i>amun</i> rice going on. <i>Rubbi</i> prospects good. Pressing of sugarcane commenced in the Bishenpore subdivision; outturn nearly average. Common rice 21 seers per rupee at Sudder and 18 seers at Bishenpore.
3	Birbhum .. 18, '90	Nil	Prospects of crops excellent. Price of rice 16½ seers per rupee at Soory and 18 seers at Rampore Hat.
4	Midnapur .. 18, '90	Nil	Weather—seasonable. Rice harvest in the Sudder subdivision completed with 12 annas outturn, but still going on in Contai and Tamluk. Prices of rice:— <div style="float: right; text-align: right;"> Srs.  Sudder ... 16  Contai ... 24 (new)  Tamluk ... 18  Ghatal ... 1½  } per rupee. </div>
5	Hooghly .. 18, '90	Nil	Weather—cold in the morning, but close at other times. Harvesting of <i>amun</i> paddy completed. <i>Rubbi</i> very hopeful. Prices of common rice:— <div style="float: right; text-align: right;"> Srs. Ch.  Sudder ... 12 0  Jehanabad ... 18 7  } per rupee. </div>
	Howrah .. 18, '90	Nil	Weather—warm for the season. State and prospects of crops good. <i>Amun</i> is still being harvested. Prices of common rice:— <div style="float: right; text-align: right;"> Srs.  Howrah ... 12½  Uluberya ... 15½  } per rupee. </div>
<i>Central Districts.</i>			
6	24-Parghas Jan. 18, '90	Nil	Weather—good and seasonable, but sometimes foggy. The force of winter is gradually fading. Harvesting of <i>amun</i> crop nearly completed except on low lands. Outturn nearly 16 annas. Winter crops doing well. Price of common rice 15 to 16 seers a rupee.
7	Nadua .. 16, '90	Nil	Weather—seasonable. Prospects of winter crops on the whole fair. <i>Katai</i> and <i>mung</i> are being harvested.
8	Khoolna .. 18, '90	Nil	Weather—seasonable. <i>Amun</i> harvest still progressing; outturn good. Winter crops doing well.
9	Jessore .. 18, '90	Nil	Weather—cool and foggy. <i>Amun</i> harvest coming to a close. Winter crops going fairly well. Prices of rice stationary.
10	Moorsshedabad .. 17, '90	Nil	Weather—fine and cold with passing clouds. Wind generally north-west. <i>Amun</i> harvesting nearly over. <i>Rubbi</i> promises well.
11	Dinagop .. 18, '90	Nil	Weather—cloudy during early part of week. Fogs continue. Rice prospects favourable. The mustard crop in the subdivision is expected to be very poor. Harvesting and pressing of sugarcane continue.
12	Rajshahye .. 18, '90	Nil	Weather—seasonable. Harvesting of <i>amun</i> crop still continues with a good outturn. Nowgong reports a bumper crop. <i>Rubbi</i> crops are tolerable. <i>Gauja</i> promising well at Nowgong. Rice sells at 16 seers 10 chittacks per rupee.
13	Rungpur .. 18, '90	Nil	Weather seasonable. Sugarcane is still being cut with good results. Mustard is ripe in some places. Land is being prepared for <i>amun</i> and jute sowings.
14	Bogra .. 18, '90	Nil	Weather—nights cold, days hot, and mornings foggy. One-ninth of the whole <i>amun</i> crop still remains to be reaped. Other crops are in a fairly good state and are being reaped. Price of common rice 22 seers a rupee at head-quarters.
15	Pabna .. 18, '90	Nil	Weather—seasonable. <i>Amun</i> below average in the Sudder subdivision: it is still being reaped. Sugarcane deficient. Mustard expected to be a 12-anna crop. Cold-weather crops doing well.
16	Darjeeling .. 18, '90	Nil	Weather—very cold and foggy. Wheat and barley are progressing favourably; other winter crops are doing well.
17	Julpigoree .. 18, '90	Nil	Weather—cold and fair. Cutting of <i>katwanti</i> paddy almost completed; outturn good. No change in prices.

No.	District and date of return.	Rainfall at Sudder Station in inches.	Character of the weather and state and prospects of the crops.
<b>BENGAL—concluded.</b>			
<i>Eastern Districts.</i>			
Dacca Divn.	18 Dacca Jan. 18, '90	Nil	Weather—seasonable. Sowing of <i>boro</i> paddy continues. Winter crops doing well. <i>Mung</i> , <i>markatai</i> and mustard are being gathered. Fodder is available. No special change in the prices of food-grains. Common rice sold at from 14 to 17 seers 12 chittacks per rupee.
	19 Furreedpur „ 18, '90	Nil	Weather—seasonable. Mornings foggy. Prospects of <i>rubbi</i> crops fair. Outturn of sugarcane and date-tree juice not satisfactory. Ordinary rice selling at 16½ seers per rupee in Sudder, 17 seers in Gumbado, and 15 seers in Mudaripore.
	20 Backergunge „ 18, '90	Nil	Weather—cool with foggy mornings. Prospects of crops good. Harvesting of <i>amun</i> nearly completed. Common (new) rice is selling at 16 seers a rupee.
	21 Mymensingh „ 18, '90	Nil	Weather—mornings foggy, but cold and clear in the days. Harvesting of <i>amun</i> paddy nearly over. Mustard seeds are being gathered. <i>Rubbi</i> crops in good condition. <i>Boro dhan</i> is being transplanted. Common rice is selling at 12 seers 13 chittacks per rupee.
	22 Chittagong „ 18, '90	Nil	Weather—seasonable. Outturn of <i>amun</i> fourteen annas. Prospects of winter crops good.
Chittagong Divn.	23 Noakholly „ 18, '90	Nil	Weather—seasonable. Harvesting of <i>amun</i> completed; outturn reported to be 16 annas, and in Chingulnaya police-station 12 annas. <i>Rubbi</i> crops doing well.
	24 Tipperah „ 18, '90	Nil	Weather—seasonable. Winter crops thriving well. <i>Boro</i> paddy is being transplanted.
	25 Chittagong Hill Tracts „ 17, '90	Nil	Weather—very cold. Foggy up to 10 a.m. in the morning. Tobacco, mustard, and chillies progressing. Outturn of cotton crop only four annas.
	Hill Tipperah Jan. 18, '90	Nil	Weather—rather a little warm for the season. Harvesting of <i>amun</i> paddy nearly over. Mustard is being gathered. Tobacco and chillies doing well.
<b>BEHAR.</b>			
Patna Divn.	26 Patna „ 18, '90	Nil	Weather—cold. <i>Rubbi</i> crops progressing well, but rain is wanted. Mustard promising. Prospects of poppy favourable. Prices of food-grains almost stationary.
	27 Gaya „ 18, '90	Nil	Weather—seasonable. Harvesting of paddy continues. <i>Rubbi</i> and poppy doing well, but rain is wanted in some places. Food-stocks sufficient.
	28 Shahabad „ 18, '90	Nil	Weather—inclined to be cloudy and uncertain. Prospects of all <i>rubbi</i> crops and poppy remain excellent. A little rain might do good. Prices stationary.
	29 Darbhanga „ 18, '90	Nil	Weather—mornings foggy and occasionally cloudy. Rain has seemed probable for the last two days. Prospects of <i>rubbi</i> continue favourable, but rain would be of immense good to the crop. Poppy is reported to be good, but caterpillars have appeared in some places. Tobacco is approaching maturity; probably an average crop. Fields are being prepared for <i>indigo</i> . Price of common rice ranges from 19½ to 21 seers per rupee.
	30 Mozufferpur „ 18, '90	Nil	Weather—slightly cloudy during the week. All standing crops doing very well. Mustard very promising. Poppy slightly damaged by caterpillars, but prospects continue good in Sudder. Hajipur poppy report not received.
	31 Sarun „ 18, '90	Nil	Weather—cold and clear, and occasionally cloudy. <i>Rubbi</i> crops are doing well. Prospects of poppy continue good. Sugarcane pressing is in full swing.
	32 Champaran „ 18, '90	Nil	Weather—cold. <i>Rubbi</i> growing well and promising a good harvest. Early sowings of poppy in blossom. Clouds keep hovering about now and then. A slight rainfall would do good to both the crops.
Bhagalpur Divn.	33 Monghyr „ 18, '90	Nil	Weather—seasonable. <i>Rubbi</i> crops progressing. Poppy doing well.
	34 Bhagalpur „ 18, '90	Nil	Weather—too warm for the season. Late rice harvest over; outturn in the two northern subdivisions, after allowing for loss from floods, is estimated at 14 annas, and in the southern subdivision 11 annas. Area under wheat about up to average, but the crop wants rain, and prospects of other <i>rubbi</i> crops are going off also.
	35 Purneah „ 18, '90	Nil	Weather—not cold enough for the time of the year. <i>Aghani</i> rice harvested; a good average crop. Tobacco prospects on the whole good; in some places want of rain has affected the crop. <i>Rubbi</i> crops doing well.
	36 Maldah „ 18, '90	Nil	Weather—rather hot for the season. Harvesting of winter rice nearly over; outturn is expected to average about 12 annas. <i>Kalai</i> and mustard are being reaped and threshed. Transplantation of <i>boro</i> begun. Wheat thriving and coming into ear. Other standing crops doing well. Common rice selling at an average of 16½ seers per rupee.
	37 Santhal Parghs. „ 18, '90	Nil	Weather—bright and cool. Rice harvest may be considered over; outturn almost average. <i>Rubbi</i> crops doing well.

No.	District and date of return.	Rainfall at Sudder Station in inches.	Character of the weather and state and prospects of the crops.
ORISSA.			
35	Cuttack Jan. 18, '90	Nil	Weather—seasonable. Reaping of <i>guru sarad</i> and early <i>rubbi</i> continues.
39	Pooree „ 17, '90	Nil	Weather—seasonable. Harvesting of the winter crop (late <i>sarad</i> ) still continues. <i>Mung</i> is being sown, and other miscellaneous crops of the season are doing well. Prices of common rice stationary.
40	Balasore „ 18, '90	Nil	Weather—seasonable. Rice harvest now over. <i>Rabbi</i> yields an outturn of about 11 annas.
CHOTA NAGPORE.			
South-West Frontier Agency.			
41	Hazaribagh Jan. 18, '90	Nil	Weather—seasonable. Prospects of crops generally good. Poppy crop in prime condition.
42	Lohardugga „ 18, '90	Nil	Weather—seasonable. Prospects of <i>rubbi</i> crops good, but some rain is wanted.
43	Singbhoom „ 18, '90	Nil	Weather—seasonable. Prospects of <i>rubbi</i> crops favourable. Sugarcane outturn full.
44	Manbhoom „ 18, '90	Nil	Weather—seasonable. <i>Rubbi</i> crops doing well, but rain is wanted.

Published for general information.

CALCUTTA ; REVENUE DEPT.,  
The 21st January, 1890.P. NOLAN,  
Secy. to the Govt. of Bengal.



### IMPORTS INTO CALCUTTA.

### IMPORTS INTO CALCUTTA.

\* One maund of paddy is equivalent to 2½ seers of rice. † Exclusive of bags obtained by local manufacture.

*The Sea-borne Trade of Calcutta in these Staples during the month of October, 1889, was as follows:—*

EXPORTED FROM CALCUTTA--														
To Indian ports--														
Via--														
Bombay ...	32,012		31,012		560		33,479		912,434		15,351	574		1,110
Madras ...					14,161		14,161		204,509			10		131
Other ports in India ...														
Madras ...	15,440	51	15,592	16	601		16,530	15,000	107,850		200	1	14	79
Bombay ...	5,824		5,824	643	3,000	1,723	9,638	70	30,400			57	105	414
Other Indian ports ...	1,056		1,056	200	1,000		5,220	1				2		
Pondicherry ...				250			250		20,500					
Total of Inter-portal trade ...	53,971	82	53,504	1,015	21,567	1,723	77,508	16,080	1,281,550		15,751	694	103	307
To Foreign ports--														
United Kingdom ...	40,033		40,033	73,301	12,280		1,81,609	10,52,007	1,013,223	2,01,004	44,007	1,79,764	1,013	7
Other Foreign ports ...	2,17,821	2,887	2,15,097	12,233	8,804	7,144	2,43,698	0,88,021	11,879,425	2,50,680	10,415	3,100	10,523	1,801
Total of Foreign trade ...	2,50,754	2,887	2,01,020	85,044	21,080	7,844	4,75,200	10,90,028	13,694,650	4,52,044	61,322	1,83,020	12,440	1,872
Grand Total ...	3,13,015	2,969	3,14,833	80,059	42,647	9,567	4,82,708	17,00,112	14,770,000	4,52,044	76,079	1,83,020	12,611	1,760
Of which ...	18,00,670	14,101	15,78,013	3,19,802	1,25,000	13,727	17,33,218	18,01,000	13,270,000	7,00,000	2,700	1,03,000	5,331	1,647

*The following Statement shows the several Routes followed by the Trade in the Principal Staples of Traffic imported into Calcutta during the month of October, 1889.*

### IMPORTS INTO CALCUTTA.

SPECIFICATION OF ROUTE.	FOOD-GRAINS.					FIBROUS PRODUCTS.		OILSEEDS.		Tea, Indian.	Cotton, raw.	Silk, raw.	SUGAR.		TOBACCO.	
	Rice.	Paddy.	Wheat.	Gram and pulses.	Other food-grains.	Jute, raw.	Gunny-bags.	Linseed.	Mustard seed.				Drained.	Un-drained.	Unmanufactured.	Manufactured.
By country boats	Mds	Mds.	Mds.	Mds.	Mds.	Mds.	No.	Mds.	Mds.	Mds.	Mds.	Mds.	Mds.	Mds.	Mds.	Mds.
" river steamers	3,87,636	66,643	27,023	1,07,073	8,442	5,70,515	103,940	69,448	69,371	1,43,230	2,301	204	4,796	21,892	14,034	1,322
" East Indian	19,702	426	2,075	8,773	.....	5,71,785	.....	26,677	57,618	.....	318	644	.....	.....	189	.....
" railway	1,00,766	59,730	1,62,577	1,42,293	20,000	99,973	30,100	2,20,733	83,409	3,200	24,439	1,007	968	7,413	697	326
" Eastern General State Railway.	2,101	.....	400	10,548	.....	14,10,961	1,001,680	1,641	2,000	67,543	307	1,008	640	2,983	26,400	.....
" road	20,315	1,669	.....	.....	.....	83,344	30,000	.....	.....	.....	97	.....	602	1,173	3,000	80
" sea	13,133	3,804	.....	5,388	1,004	3,087	4,150	1,885	541	3,016	6,307	.....	29,322	23,794	123	20
Grand total of 1890	5,63,767	1,12,341	1,96,965	2,81,863	20,400	27,62,442	1,229,740	3,18,804	1,76,688	1,98,339	23,500	2,413	23,996	57,841	64,823	2,020
Imports October 1890	14,10,648	1,31,189	2,94,639	3,34,300	27,983	26,31,306	2,853,334	5,66,218	1,76,169	1,60,642	29,150	2,077	67,533	53,678	11,949	22,200

*The following Statement shows the Values, Quantities, and Numbers of the Principal Staples of Traffic exported Inland from Calcutta during the month of October, 1889.*

### EXPORTS FROM CALCUTTA.

Whither exported.	Cotton piece-goods.		Cotton twist.		Salt.	Gunny-bags.	Whither exported.	Cotton piece-goods.		Cotton twist.		Salt.	Gunny-bags.
	European.	Indian.	European.	Indian.				European.	Indian.				
BENGAL.													
Burdwan	1,90,969	6,710	445	1,230	84,248	78,809	CHOTA NAGPORE.	Rs.	Rs.	Mds.	Mds.	Mds.	No.
Barraboom	58,409	5,280	45	762	18,739	53,342	Hazaribagh	87,293	4,400	1	235	6,014	2,979
Bidarpore	1,81,217		2,415		22,115	15,439	Manbhoom	1,12,268	13,649	45	1,960	9,623	500
Boghrly	79,992	1,870	830	4,081	1,577	63,410	Total of Chota Nagpore	1,40,000	18,049	46	2,233	18,637	2,316
Se-Pergannah	91,223	3,139	493	109	10,078	4,235	Grand total of supplies into the Provinces under the Lieutenant-Governor of Bengal	83,04,864	88,815	19,373	13,000	5,24,640	667,176
Nudda	2,65,164		2,167		18,994	16,903	OTHER PROVINCES.						
Khalna	28,767		69		5,425		Assam	8,14,017		1,883	679	82,779	
Jessore	96,713		779		17,120	1,018	North-Western Provinces and Oudh	35,97,993	30,980	3,069	843	28,570	226,204
Moorshedabad	42,731		143		7,546	7,889	Punjab	16,87,581	3,960	1,078	18		449,100
Bankura	1,20,054		23		2,346	4,815	Central Provinces	30,114	1,760	109			4,300
Barabadye	2,04,501		65		12,433	11,905	Rajputana and Central India	76,883	770	216	1		20,373
Bungpore	3,57,004		261		7,910	2,045	Itanar	500	110				
Bowra	1,76,831		72		4,140	4,045	Hombay	630	6,411				913,835
Pubna	2,19,585		6-8		17,085	180	Madras	85,597	4,800	1,948	378		312,340
Darjeling	66,613		205		7,433	800	Pondicherry	750					26,400
Jaipur	1,30,346		131		3,911		Burmah	2,35,300	13,710	6-8	2,469		30,600
Dacca	8,06,211		1,807	569	31,413	12,615	Other places	7,023	6,350	10	4,797		18,404,800
Pureedpore	2,32,170		390		23,090	4,410	Grand Total of 1890	1,47,09,478	1,25,968	26,684	23,481	9,95,704	18,168,510
Bakergunge	2,87,681		1,994		30,550	2,730	Exports in Oct. ... 1890	1,26,61,663	63,376	22,974	13,504	6,33,798	14,073,620
Chittagong	1,67,480		13		16,900		The Sea-borne Trade of Calcutta in these Staples during the month of October, 1890, was as follows:—						
Typhrah					8,593		IMPORTED INTO CALCUTTA—						
Outrigger boat-holly	1,07,150	4,160	87		30,480		Rs.*	Rs.	Mds.	Mds.	Mds.	No.	
Total of Bengal...	30,18,973	21,139	13,633	6,749	2,85,799	313,161	From Foreign Ports—						
BEHAR.													
Patan	8,32,854	58	266	92	39,908	80,633	United Kingdom	1,08,80,047		1,186		4,62,361	
Oya	1,02,343	2,660	23	1,264	9,023	20,860	Other Foreign ports	40,890		597		1,62,763	
Ahabad	4,79,630	1,980	21	581	16,269	12,215	Total of Foreign Trade	1,09,20,941		1,783		6,25,123	
Mooftapore	2,90,809		13	68	9,935	8,135	From Indian Ports—						
Harrabanga	6,22,45		607		47,196	26,060	Bombay	8,381	3,67,515	30	8,302	44,230	
Saran	4,23,74		13	56	21,033	50,250	Madras	400	15,008		160		
Chumpanan	8,67,431	1,540	30	131	17,215	17,215	Other ports in Madras					40	
Minahyir	1,06,497		10	576	10,390	10,390	Burmah	8,184	415	20	15		
Bhachpore	2,68,554	11,550	164	546	11,421	9,563	Other Indian ports		400		10		
Pranah	2,04,193		295	971	4,910		Total of Interportial Trade	13,943	4,01,835	30	8,587	44,200	
Mulshah					22,843	24,570	Grand Total of Im- & Ex- ports in Oct. ... 1890	1,40,65,906	4,01,935	1,783	8,687	6,73,419	
South Pargannahs	1,60,432		98	1,149	22,843	24,570		1,30,56,337	1,92,990	14,319	8,578	6,35,130	
Total of Behar...	30,00,151	18,510	903	6,013	2,18,946	260,286	* As per tariff declaration value.						
ORISSA.													
Outlook	30,940		97										
Balsore	4,96,860		4,901		14,148	85,600							
Total of Orissa	5,27,800		4,998		14,148	85,600							

The following Statement shows the several Routes followed by the Trade in the Principal Staples of Traffic exported from Calcutta during the month of October, 1889.

SPECIFICATION OF ROUTES.										COTTON PIECE-GOODS.		COTTON TWIST.		Salt.	Gunny-bags.
										European.	Indian.	European.	Indian.		
										Rs.	Rs.	Mds.	Mds.	Mds.	No.
By country boats	...	...	...	...	...	...	...	...	...	1,64,410	...	2,119	2,905	2,30,000	97,905
river steamers	...	...	...	...	...	...	...	...	...	4,58,338	...	2,617	1,343	15,504	25,654
East Indian Railway										97,54,687	99,660	9,045	11,513	2,01,003	1,100,300
Eastern Bengal State Railway										31,61,176	...	9,115	...	43,560	63,028
road	...	...	...	...	...	...	...	...	...	1,56,876	2,109	495	9,945	4,019	...
sea	...	...	...	...	...	...	...	...	...	9,10,600	22,637	6,630	9,040	12,148	24,838,300
Grand Total of Exports in October										1,47,09,639	1,25,200	20,506	21,481	5,96,796	10,104,814
										1,30,41,685	63,370	22,396	12,504	6,33,079	14,879,638

**PRICES-CURRENT (RETAIL) OF FOOD-GRAINS, FIREWOOD AND SALT IN THE  
HEAD-QUARTER STATION BAZARS OF THE DISTRICTS OF BENGAL  
DURING THE PORTNIGHT ENDING THE  
15TH JANUARY 1890.**

## PRICES-CURRENT (retail) of Food-grains, Firewood and Salt in the

Number.		DISTRICTS.	QUANTITIES PER RUPEE IN																												
			WHEAT.			BARLEY.			RICE, BEST SORT.			RICE, COMMON.			JOWAR OR CHOLU. (Sorghum Vulgare.)																
			Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.														
BENGAL.																															
Western Districts.																															
		S.	Ch.	S.	Ch.	S.	Ch.	S.	Ch.	S.	Ch.	S.	Ch.	S.	Ch.	S.	Ch.	S.	Ch.	S.	Ch.	S.	Ch.	S.	Ch.	S.	Ch.				
1	Burdwan	13	8	14	8	13	4	No sale.			New	15	0	12	0	16	8	New	16	5	13	12	14	12	...	...	...				
2	Bankoora	14	8	14	8	12	4	14	0	14	0	14	8	17	0	15	0	16	4	21	0	19	0	20	8	...	...	...			
3	Beerbhoom*	...	15	8	11	0	...	...	...	...	12	0	12	0	...	15	0	16	0	...	...	...	...	...	...	...	...				
4	Midnapore	13	0	13	0	13	5	...	...	...	{	12	8	New	14	0	12	8	{	16	8	New	17	0	20	0	...	...	...		
5	Hooghly	13	0	13	0	13	0	...	...	...	8	0	8	0	10	0	12	0	12	0	13	0	...	...	...	...	...				
	Howrah	...	...	...	...	...	...	...	...	...	9	8	9	8	12	0	14	0	14	0	17	12	...	...	...	...	...				
Central Districts.																															
	Calcutta	13	6	13	4	12	13	16	9	16	10	16	0	8	11	8	10	9	13	13	8	13	8	14	11	19	4	17	3	17	12
6	24-Pergunnahs	14	8	13	0	12	8	16	0	16	0	16	0	9	0	7	8	8	0	16	8	16	0	16	0	...	...	...	...	...	
7	Nudda	15	0	15	0	14	0	17	12	17	12	22	14	10	10	10	10	12	5	13	4	12	7	17	10	...	...	...	...	...	
8	Rhoolna	...	...	...	...	...	...	...	...	...	...	...	New	14	0	11	8	16	0	16	0	16	0	18	0	...	...	...	...	...	
9	Jessore	13	5	13	5	11	12	...	...	...	...	...	9	0	9	0	13	4	16	0	16	0	17	0	...	...	...	...	...	...	
10	Moorshedabad	16	0	16	0	13	8	...	...	...	...	...	15	8	12	0	13	8	17	0	15	8	18	0	...	...	...	...	...	...	
11	Dinagore	17	4	17	8	12	0	16	0	14	8	12	0	15	8	15	8	16	0	19	0	19	0	19	3	...	...	...	...	...	
12	Rajahmudy	15	0	15	12	16	8	18	12	19	8	20	4	13	8	13	8	15	0	15	12	15	12	16	8	...	...	...	...	...	
13	Rungpore	14	8	13	5	12	4	...	...	...	...	...	9	6	10	0	10	8	14	8	13	5	16	0	...	...	...	...	...	...	
14	Bogra	{			Best.	13	5	12	0	{	9	15	...	...	12	0	12	0	13	8	19	8	18	12	18	12	...	...	...	...	...
		{			Common.	16	8	15	12																						
15	Pubna	13	8	12	0	15	0	...	...	...	...	...	7	4	7	8	8	0	15	14	16	8	17	4	...	...	...	...	...	...	
16	Darjeeling	10	0	11	0	10	0	10	0	10	0	10	0	5	0	5	0	5	0	12	0	12	0	12	0	...	...	...	...	...	...
17	Julpigoree	13	0	13	0	10	0	10	0	15	0	16	0	8	0	8	0	8	0	17	0	16	0	19	0	...	...	...	...	...	...
Eastern Districts.																															
18	Dacca*	...	13	0	15	0	...	16	0	20	0	...	13	0	16	0	...	16	0	18	0	...	...	...	...	...	...	...	...	...	...
19	Furreedpore	12	0	12	0	8	0	12	0	12	0	15	0	10	0	11	0	10	0	14	0	15	0	16	0	...	...	...	...	...	...
20	Hackerung	...	...	...	...	...	...	...	...	...	...	...	13	5	14	4	13	5	16	0	16	0	15	0	...	...	...	...	...	...	...
21	Mymensingh	10	0	10	0	8	12	...	...	...	...	...	10	0	9	0	12	0	12	12	14	0	20	0	...	...	...	...	...	...	...

\* Present return not received.

A In subdivisions retail prices of salt per rupee are:—Calcutta 10 seers, 6 chittacks, and Hanneung 10 seers.

B In subdivisions retail prices of salt per rupee are:—Ghatal 9 seers, Tumuk 8 seers, and Ghatal 10½ seers.

C In subdivisions retail prices of salt per rupee are:—Berhampore 10 seers and Jehannabad 10 seers.

D In subdivisions retail prices of salt per rupee are:—Barisal 9 seers, Barisal 9 seers, Diamond Harbour (at Magrahat) 10 seers, Barisal 9 seers 2 chittacks, and Barisal 10 seers.

E In subdivisions retail prices of salt per rupee are:—Koochma 10 seers, Moherpore 10½ seers, Chooadanga 9 seers, and Barisal 9 seers 2 chittacks.

F In subdivisions retail prices of salt per rupee are:—Hajirhat 8 seers and Hatkhira 9 seers.

G In subdivisions retail prices of salt per rupee are:—Jharkhand 9 seers, Bagura 9½ seers, Narail 9½ seers, and Bongong 10 seers.

RAJRA OR CUMBU. ( <i>Pennisetum typho-</i> <i>elodum.</i> )			MARCA OR RAOL. ( <i>Eloaria Corocana.</i> )			KANGRI OR KAKUN, ITALIAN MILLET. ( <i>Scleria italica.</i> )			GHAM, GHANA, CHIHUA, KADATAY OR SUNAGA. ( <i>Cyper aristatum.</i> )		
Present return.	Next preceding re- turn.	Corresponding re- turn of last year.	Present return.	Next preceding re- turn.	Corresponding re- turn of last year.	Present return.	Next preceding re- turn.	Corresponding re- turn of last year.	Present return.	Next preceding re- turn.	Corresponding re- turn of last year.

S.	Ch.	S.	Ch.	S.	Ch.	S.	Ch.	S.	Ch.	S.	Ch.	S.	Ch.	S.	Ch.
...	...	...	...	...	...	...	...	...	...	18	0	18	0	17	0
...	...	...	...	...	...	...	...	...	...	16	0	15	8	14	8
...	...	...	...	...	...	...	...	...	...	...	...	16	0	14	4
...	...	...	...	...	...	...	...	...	...	16	0	15	0	14	0
...	...	...	...	...	...	...	...	...	...	16	0	16	0	13	0
...	...	...	...	...	...	...	...	...	...	17	0	16	12	15	8

[illegible]

										13	0	13	0
										11	0	11	0
										15	3	16	8
										13	0	13	0



INDIAN-CORN OR NAIPE. (See Mayo.)			ARRAR OR THUR. CAIJAN PEA. (Cajanus indicus.)			PINEWOOD.		
Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.

S. Ch.	S. Ch.	S. Ch.	S. Ch.	S. Ch.	S. Ch.	S. Ch.	S. Ch.	S. Ch.
No sale.			24 0	20 0	18 0	100 0	100 0	107 0
28 0	26 0	19 0	16 8	16 8	18 12	280 0	280 0	320 0
...	...	...	...	12 0	20 0	...	160 0	160 0
...	...	...	13 8	13 8	20 0	160 0	160 0	120 0
...	...	...	11 0	11 0	13 0	120 0	120 0	120 0
...	...	...	13 8	13 4	14 8	100 0	100 0	100 0

18 10	18 5	17 12	16 7	16 7	16 4	100 0	100 0	95 0
...	...	...	19 0	18 0	18 0	100 0	100 0	100 0
...	...	...	18 14	16 0	17 12	...	...	...
...	...	...	...	...	...	160 0	160 0	160 0
...	...	...	16 0	16 0	16 0	160 0	160 0	160 0
...	...	...	19 0	19 0	20 0	200 0	200 0	200 0
...	...	...	...	...	...	160 0	160 0	160 0
...	...	...	17 4	17 0	19 1	240 0	240 0	240 0
...	...	...	9 6	10 5	10 0	100 0	100 0	120 0
...	...	...	...	...	...	90 0	90 0	90 0
...	...	...	15 8	16 8	21 0	200 0	200 0	200 0
18 0	21 0	20 0	8 0	8 0	8 0	120 0	120 0	120 0
...	...	...	13 0	13 0	9 0	120 0	120 0	120 0

...	...	...	...	14 0	16 0	...	160 0	120 0
15 0	15 0	20 0	11 0	11 0	12 0	120 0	120 0	120 0
...	...	...	...	...	...	120 0	120 0	120 0
...	...	...	13 0	14 0	13 0	...	...	...



## PRICES-CURRENT (retail) of Food-grains, Firewood and Salt in the Head-quarter

		QUANTITIES PER RUPEE IN																	
		WHEAT.			BARLEY.			RICE, BEST SORT.			RICE, COMMON.			JOWAR OR CHOLDA. (Sorghum Vulgare.)					
Number.	DISTRICTS	Present return	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.
		S. Ch.	S. Ch.	S. Ch.	S. Ch.	S. Ch.	S. Ch.	S. Ch.	S. Ch.	S. Ch.	S. Ch.	S. Ch.	S. Ch.	S. Ch.	S. Ch.	S. Ch.	S. Ch.	S. Ch.	S. Ch.
Eastern Districts—continued.																			
22	Chittagong*	...	11 0	11 0	...	...	...	...	8 0	12 0	...	16 0	16 3	...	...	...	...	...	...
23	Noakholly*	...	...	...	...	...	...	...	15 0	18 0	...	17 0	21 0	...	...	...	...	...	...
24	Tipperah	11 7	10 7	12 8	...	...	...	...	10 0	10 0	16 0	16 0	23 0	...	...	...	...	...	...
25	Chittagong Hill Tracts	...	...	...	...	...	...	...	10 0	0 0	11 6	11 6	13 5	...	...	...	...	...	...
	Hill Tipperah...	6 0	6 0	6 0	...	...	...	...	8 0	5 0	9 0	14 0	16 0	18 0	...	...	...	...	...
BEHAR.																			
26	Patna	17 6	17 4	...	21 0	24 0	20 8	10 8	10 8	11 0	18 0	18 0	15 8	22 0	22 0	21 0	...	...	...
27	Gya	15 8	15 8	16 0	23 0	20 0	16 0	10 0	10 0	9 8	17 0	17 0	15 8	...	...	...	...	...	...
28	Shahabad	16 0	16 0	14 8	22 0	22 0	18 0	9 8	9 0	10 0	17 0	17 0	15 4	21 0	21 0	18 8	...	...	...
29	Darbhunga	15 6	17 0	15 4	20 12	10 0	17 8	17 9	14 8	10 8	20 4	19 8	13 8	...	...	...	...	...	...
30	Mosufferpore	14 0	14 0	12 0	20 0	20 0	18 0	12 0	10 0	9 0	18 0	18 0	12 0	...	...	...	...	...	...
31	Saran	16 0	16 4	15 0	20 0	22 0	20 8	8 8	8 8	8 8	15 8	15 10	13 10	...	...	...	...	...	...
32	Chumparun	13 0	13 0	13 0	...	20 0	20 0	9 0	9 0	7 8	18 8	18 0	13 0	...	...	...	...	...	...
33	Monghyr	18 10	17 5	14 11	21 0	21 0	...	13 2	12 1	12 9	16 13	16 4	15 4	...	...	...	...	...	...
34	Bhagulpore	14 11	16 6	15 2	20 3	20 3	12 10	12 0	12 0	11 0	17 10	17 11	15 2	...	...	...	...	...	...
35	Purneah	20 0	20 0	13 0	...	...	...	18 0	17 0	16 0	19 0	19 0	17 0	...	...	...	...	...	...
36	Maidah	18 0	18 0	13 8	...	...	...	12 0	9 0	12 8	17 0	16 0	17 6	...	...	...	...	...	...
37	Sonthal Pergha.	13 4	14 0	11 8	...	...	...	12 0	12 0	12 8	17 0	18 0	18 0	...	...	...	...	...	...
ORISSA.																			
38	Cuttack	11 13	13 2	11 13	...	...	...	10 8	10 8	11 13	19 11	19 11	19 11	...	...	...	...	...	...
39	Pooree	11 13	13 2	11 13	...	...	...	15 12	14 7	13 2	22 10	22 10	21 0	...	...	...	...	...	...
40	Balasore	15 0	15 0	12 0	12 0	12 0	12 0	13 0	12 0	12 0	19 0	18 0	22 0	...	...	...	...	...	...
CHOTA NAGPORE.																			
South-West Frontier Agency.																			
41	Hazaribagh	13 0	14 0	12 0	12 0	12 0	9 0	10 0	10 0	8 0	18 0	20 0	15 0	...	...	...	...	...	...
42	Lohardugga	12 8	11 12	10 8	13 0	12 0	...	17 0	18 0	12 0	...	...	...	...	...	...	...	...	...
43	Singbhoom	10 0	10 0	10 0	20 0	20 0	14 0	16 0	16 0	16 0	20 0	20 0	20 0	...	...	...	...	...	...
44	Manbhoom	13 6	12 6	11 14	...	...	...	15 0	13 0	12 8	20 0	22 0	21 0	...	...	...	...	...	...

\* Present return not received.

† Common rice at Jajpore 23 seers 10 chittacks per rupee, and at Kondrapara 26 seers 4 chittacks.

P In subdivisions retail prices of salt per rupee are:—Bamuram 104 seers, Buxar 10 seers, and Bhambah 94 seers.

R In subdivisions retail prices of salt per rupee are:—Jajpore 11 seers and Madhubani 10 seers.

S At Bhatia retail price of salt 94 seers per rupee.

CALCUTTA,  
The 21st January, 1890.

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INDIAN-CORN OR MAIZE. (See Maps.)			ARKAN OR THUR. CAJAN PEA. (Cajanus indicus.)			FIREWOOD.		
Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.

S. Ch.	S. Ch.	S. Ch.	S. Ch.	S. Ch.	S. Ch.	S. Ch.	S. Ch.	S. Ch.
...	...	...	...	...	...	...	100 0	106 0
...	...	...	7 0	...	...	...	...	...
...	...	...	8 6	8 6	8 0	...	...	...
...	...	...	...	...	...	320 0	330 0	330 0
...	...	...	8 0	8 0	8 0	...	...	...

23 0	23 8	20 8	21 0	20 0	22 0	130 0	130 0	130 0
...	...	...	19 0	18 0	18 0	160 0	200 0	200 0
...	...	...	20 0	19 0	13 4	140 0	140 0	160 0
24 8	24 0	18 0	18 8	18 0	20 12	160 0	160 0	200 0
22 8	24 0	17 0	18 0	18 0	20 0	160 0	160 0	160 0
21 0	21 14	19 4	19 0	19 8	20 6	160 0	160 0	160 0
24 0	24 8	17 8	17 0	17 8	22 0	160 0	160 0	160 0
24 2	24 3	17 13	17 13	17 13	18 10	147 0	147 0	147 0
22 11	22 11	17 10	17 11	17 11	17 10	164 0	176 12	176 8
...	...	...	16 0	16 0	16 0	130 0	130 0	200 0
...	...	...	...	...	...	160 0	160 0	120 0
25 0	27 0	20 0	20 0	20 0	24 0	200 0	200 0	200 0

...	...	...	14 7	14 7	18 6	80 0	80 0	80 0
...	...	...	14 7	15 12	13 2	80 0	80 0	80 0
...	...	...	...	...	...	160 0	140 0	160 0

21 0	24 0	18 0	15 0	17 0	16 0	320 0	330 0	330 0
40 0	32 0	18 0	Big. 15 4	15 8	16 8	130 0	130 0	140 0
32 0	32 0	...	13 0	12 0	15 0	240 0	200 0	200 0
32 0	32 0	26 0	19 0	18 0	18 0	200 0	200 0	200 0



## Station Bazars of the Districts of Bengal on the 15th January 1890—(concluded).

WHOLESALE PRICES PER MAUND OF 40 SEERS.															AVERAGE WAGES PER MONTH.															DISTRICTS.
SALT.					SALT.					AHER-BODIED AGRICULTURAL LABOURER.					BYCK OR HORSE- KEEPER.					COMMON MASON, CARPENTER, OR BLACKSMITH.										
Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.													
Eastern Districts—concluded.																														
B. Ch.	B. Ch.	B. Ch.	Rs. A.	P.	Rs. A.	P.	Rs. A.	P.	Rs. A.	P.	Rs. A.	P.	Rs. A.	P.	Rs. A.	P.	Rs. A.													
...	9 0	9 0	...	...	4 0 0	4 4 0	10 8	8 0	8 0	8 0	8 0	8 0	8 0	8 0	8 0	8 0	8 0													
							7 0	6 0	7 0	6 0	5 0	6 0	5 0	6 0	5 0	6 0	5 0													
	9 0	8 0			4 0 0	4 8 0	10 0	10 0	7 0	6 0	7 0	14 0	14 0	20 0	12 0	12 0	11 0													
8 14	8 14	8 0	4 8 0	4 8 0	4 6 0	10 0	10 0	10 0	7 0	7 0	8 0	8 0	8 0	8 0	8 0	8 0	8 0													
8 0	8 0	8 0	4 8 0	4 8 0	4 8 0	...	...	...	...	...	...	...	...	...	...	...	...													
8 0	8 0	8 0	4 6 0	4 6 0	4 6 0	8 0	8 0	8 0	6 0	6 0	6 0	15 0	15 0	15 0	15 0	15 0	15 0													
Chittagong.																														
Nonkholly																														
Tipperah.																														
Chittagong Hill Tract.																														
Hill Tipperah.																														
BEHAR.																														
10 0	9 8	10 0	3 14 0	3 14 0	3 13 3	4 0	4 0	4 0	4 8	4 8	4 8	7 0	7 0	6 0	8 0	8 0	8 0													
						5 0	5 0	5 0	5 0	5 0	5 0	8 0	8 0	8 0	8 0	8 0	8 0													
9 2	9 2	9 8	4 2 0	4 2 0	4 0 0	3 0	3 0	3 0	3 0	3 0	3 0	3 0	3 0	3 0	3 0	3 0	3 0													
P	10 0	10 0	3 15 0	3 15 0	4 0 0	5 0	5 0	5 0	5 0	5 0	5 0	5 0	5 0	5 0	5 0	5 0	5 0													
Q	10 0	10 0	3 12 0	3 12 0	3 10 3	3 12	3 12	2 12	3 0	3 0	3 0	3 12	3 12	3 12	3 12	3 12	3 12													
						5 8	5 0	5 0	5 0	5 0	5 0	9 0	9 8	9 8	9 8	9 8	9 8													
R	10 0	10 0	3 12 0	3 12 0	3 12 0	3 12	3 12	3 0	3 0	3 0	4 0	4 0	7 8	5 0	5 0	5 0	5 0													
						5 0	5 0	4 0	4 0	4 0	4 0	4 0	4 0	4 0	4 0	4 0	4 0													
9 8	9 8	10 0	4 2 0	4 2 0	3 14 0	3 12	3 12	3 12	4 0	4 0	4 0	4 0	4 0	4 0	4 0	4 0	4 0													
S	9 8	9 0	4 2 0	4 2 0	4 0 0	2 13	2 13	2 13	4 0	4 0	4 0	4 0	4 0	4 0	4 0	4 0	4 0													
						3 12	3 12	3 12	3 0	3 0	3 0	3 0	3 0	3 0	3 0	3 0	3 0													
T	9 11	9 11	9 8	4 0 0	3 14 0	4 0 0	5 10	5 10	3 0	3 0	3 0	3 0	3 0	3 0	3 0	3 0	3 0													
						3 12	3 12	3 12	4 0	4 0	4 0	4 0	4 0	4 0	4 0	4 0	4 0													
10 1	10 1	10 1	3 15 0	3 15 0	4 0 0	4 11	4 11	4 11	5 0	5 0	5 0	5 0	5 0	5 0	5 0	5 0	5 0													
U	9 8	10 0	9 0	4 8 4	4 0 0	4 5 0	4 5 0	4 5 0	4 0	4 0	4 0	4 0	4 0	4 0	4 0	4 0	4 0													
						6 0	6 10	6 10	5 0	5 0	5 0	5 0	5 0	5 0	5 0	5 0	5 0													
9 0	9 0	9 8	4 0 0	4 4 0	4 0 0	7 8	7 8	7 8	5 0	5 0	5 0	5 0	5 0	5 0	5 0	5 0	5 0													
9 0	9 4	9 0	4 2 0	4 0 0	4 4 0	3 12	3 12	3 12	5 0	5 0	5 0	5 0	5 0	5 0	5 0	5 0	5 0													
Monghyr.																														
Bhazulpore.																														
Purneah.																														
Maldah.																														
South Pargha.																														
ORISSA.																														
11 0	11 0	11 0	3 12 0	3 12 0	3 12 0	5 0	5 0	5 10	4 8	4 8	4 0	6 0	6 0	7 8	8 0	8 0	8 0													
						7 0	7 0	7 0	5 0	5 0	5 0	5 0	5 0	5 0	5 0	5 0	5 0													
11 13	11 13	11 13	3 6 0	3 6 0	3 6 0	7 0	7 0	7 0	5 0	5 0	5 0	5 0	5 0	5 0	5 0	5 0	5 0													
V	10 0	9 8	9 12	3 14 0	3 13 0	4 0	4 0	4 0	4 0	4 0	4 0	4 0	4 0	4 0	4 0	4 0	4 0													
						6 0	6 0	6 0	6 0	6 0	6 0	6 0	6 0	6 0	6 0	6 0	6 0													
Cuttack.																														
Pooree.																														
Balasore.																														
CHOTA NAGPORE.																														
South-West Frontier Agency																														
8 0	8 0	8 0	4 6 0	4 6 0	4 8 0	4 8	3 12	3 12	4 0	4 0	4 0	7 8	8 0	7 8	8 0	8 0	8 0													
W	4 8	8 8	8 8	4 9 0	4 9 0	8 4	3 4	3 4	3 8	3 8	3 0	4 11	4 11	6 0	6 0	6 0	6 0													
						3 12	3 12	3 12	6 0	6 0	4 8	4 11	4 11	12 0	12 0	12 0	12 0													
7 0	7 0	7 0	5 8 0	5 8 0	5 8 0	...	...	...	...	...	...	...	...	...	...	...	...													
X	9 2	9 9	9 0	4 2 6	4 2 0	4 3 0	4 11	4 11	4 11	5 0	5 0	5 0	13 2	13 2	13 2	13 2	13 2													
						15 0	15 0	15 0	15 0	15 0	15 0	15 0	15 0	15 0	15 0	15 0	15 0													
Hazaribagh.																														
Behardugga.																														
Singbhoon.																														
Manbhoon.																														

T In subdivisions retail prices of salt per rupee are:— Begusarai 9½ seers and Jamui 9 seers.  
 U At Kichengungo retail price of salt 8 seers per rupee.  
 V At Bhudruk retail price of salt 9 seers per rupee.  
 W In Pulamow subdivision retail price of salt 8½ seers per rupee.  
 X At Govindpore retail price of salt 9 seers per rupee.

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P. NOLAN,  
 Secy. to the Govt. of Bengal.

## PRICES-CURRENT (wholesale) of Food-grains, Firewood, and Salt

Number.	MARTS.	WHEAT.			BARLEY.			RICE, BEST SORT.			RICE, COMMON.		
		Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.
		R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.
1	Calcutta	2 11 5	2 12 2	2 13 10	2 2 7	2 2 6	2 4 3	4 5 0	4 6 5	3 14 4	2 11 5	2 11 4	2 7 8
2	Serajgunge	2 0 0	2 4 0	2 4 0	...	...	...	5 4 0	5 8 0	3 8 0	2 10 0	2 12 0	2 6 0
3	Dacca*	...	3 0 0	2 10 0	...	2 7 0	2 0 0	...	3 0 0	2 7 0	...	2 7 0	2 4 0
4	Narsingunge*	...	...	...	...	...	...	...	3 0 0	2 6 0	...	2 12 0	2 4 0
5	Chittagong*	...	3 8 0	3 9 0	...	...	...	...	4 8 0	3 4 0	...	2 6 0	2 7 0
6	Patna	2 4 6	2 4 6	...	1 10 0	1 10 0	1 14 6	3 12 0	3 12 0	3 8 0	2 3 0	2 2 6	2 7 0
7	Balasore	2 2 0	2 2 0	3 8 0	3 0 0	3 0 0	3 0 0	3 0 0	3 4 0	3 4 0	2 0 0	2 4 0	1 10 0
8	Pooree	...	...	...	...	...	...	...	...	...	1 15 0	1 15 0	1 14 0
9	Cuttack	3 4 0	3 0 0	3 4 0	...	...	...	3 0 0	3 0 0	3 4 0	2 0 0	2 0 0	2 0 0

\* Present returns not received.

CALCUTTA,  
The 21st January, 1890.

PRICES PER MAUND

JOWAR OR CHOLU. ( <i>Sorghum Vulgare</i> .)						BAJRA OR CUMBU. ( <i>Pennisetum typhoides</i> .)					
Present return.			Next preceding return.			Present return.			Next preceding return.		
Corresponding return of last year.			Corresponding return of last year.			Corresponding return of last year.			Corresponding return of last year.		
R.A.P.	R.A.P.	R.A.P.	R.A.P.	R.A.P.	R.A.P.	R.A.P.	R.A.P.	R.A.P.	R.A.P.	R.A.P.	R.A.P.
1 13 02	1 72	0 02	9 72	13 72	12 0						
...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...
1 12 01	12 01	14 0									
...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...

OF 40 SEEDS.

MARUA OR RAOI. ( <i>Eleusine Coracana.</i> )			KANGONI OR KARUR. ITALIAN MILLET. ( <i>Setaria Italica.</i> )		
Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.
R.A.P.	R.A.P.	R.A.P.	R.A.P.	R.A.P.	R.A.P.
...	...	...	540242980		
...	...	...	...	...	...
...	...	...	...	...	...
...	...	...	...	...	...
...	...	...	...	...	...
1701100	...	...	200200270		
...	...	...	...	...	...
...	...	...	...	...	...
...	...	...	...	...	...

in the undermentioned *Marts* of Bengal on the 15th January 1890.

GRAM, CHANA, CHHOLA, KADALAY OR SUNAGA. ( <i>Cicer Arietinum.</i> )			INDIAN-CORN OR MAIZE. ( <i>Zea Mays.</i> )			ARHAR OR THUR. CADJAN PEA. ( <i>Cajanus indicus.</i> )			FIREWOOD.			SALT.			MARTS.
Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	
R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	R. A. P.	
2 3 5	2 3 10	2 0 10	1 14 7	1 15 1	2 0 0	2 2 9	2 2 11	2 3 1	0 5 6	0 5 6	0 5 0	3 11 6	3 11 11	3 10 0	Calcutta.
2 8 0	3 0 0	3 4 0	...	...	...	...	...	...	...	...	...	4 0 0	4 2 0	3 10 0	Serajgunge
...	3 0 0	3 0 0	...	...	...	...	2 12 0	2 8 0	...	0 4 0	0 5 0	...	4 4 0	4 4 0	Dacca.
...	3 0 0	3 0 0	...	...	...	...	3 4 0	3 2 0	...	0 8 0	0 10 0	...	4 0 0	3 12 0	Naraingunge
...	3 0 0	3 4 0	...	...	...	...	...	...	...	0 7 0	0 5 3	...	4 0 0	4 4 0	Chittagong.
1 11 6	1 12 0	2 1 0	1 11 6	1 12 0	1 14 6	1 14 0	1 14 0	1 12 0	0 5 0	0 5 0	0 5 0	3 14 0	3 14 0	2 13 3	Patna.
2 12 0	2 12 0	3 12 0	...	...	...	...	...	...	0 4 6	0 5 0	0 4 6	3 14 0	3 15 0	3 13 6	Balasore.
...	...	...	...	...	...	...	...	...	...	...	...	3 6 0	3 6 0	3 6 0	Pooree.
2 12 0	3 11 0	2 2 0	...	...	...	2 12 0	2 12 0	2 2 0	0 8 0	0 8 0	0 8 0	3 12 0	3 12 0	3 12 0	Cuttack.

Published for general information.

P. NOLAN,  
Secy. to the Govt. of Bengal.



## Meteorological Report of the Province of Bengal

			STATION OBSERVATIONS.													
METEOROLOGICAL DIVISION.	DISTRICT.	Representative station.	AIR PRESSURE.			WIND.		TEMPERATURE.								
			Mean barometric height, 8 A.M.	Mean reduced to sea-level.	Variation from mean.	Prevailing direction.	Mean wind velocity.	Highest during week.	Date.	Lowest during week.	Date.	Mean maximum temperature.	Mean minimum temperature of week.	Mean daily temperature of week.	Variation from normal mean of week.	Mean, 8 A.M., temperature.
CENTRAL.	Pooree	Pooree	30.010	30.009	—	Calm & N	62	80.2	15, 16 Jan.	59.4	15, 15, 17 Jan.	79.4	60.4	71.3	+0.7	65.1
		Calcutta	30.000	30.000	—	S.W.	215	80.2	15th	59.5	15th	79.7	60.0	71.3	+0.0	64.3
		Faizalpur	30.009	30.001	—0.007	N.W.	130	82.0	15th	59.5	16th	79.7	60.0	71.3	+0.0	64.3
	Cuttack	Cuttack	29.966	30.001	—0.041	Calm	15	85.8	15th	58.8	16th, 17th Jan.	84.2	59.4	71.8	—0.5	63.2
SOUTH-WEST BENGAL.	Balasore	Balasore	29.990	30.002	—0.054	NNW	91.7	82.4	15th, 17th Jan.	53.0	16th	81.2	55.0	68.0	+0.0	61.2
	South-West Midnapore	Saugor Island	30.000	30.003	—0.003	NNE	171	77.7	15th, 16th Jan.	57.0	17th	76.4	61.8	69.1	+1.6	64.0
	South 24 Pargunnahs	Midnapore	29.982	30.001	—0.075	N	21.6	83.3	14th	54.2	16th, 17th Jan.	82.0	55.0	69.3	+2.8	61.2
	24 Pargunnahs	Calcutta	30.011	30.004	—0.070	Calm	48	79.6	15th	54.6	16th	78.0	56.0	67.5	+1.3	61.3
	Howrah	Burdwan	29.924	30.000	—0.080	Calm	21.8	82.1	14th	53.8	16th	80.6	56.0	69.4	+1.0	59.2
	Hooghly	Bankura	29.901	30.001	—0.077	W	31	81.0	14th	53.0	16th	80.4	55.2	67.8	+1.6	58.8
	Burdwan	Ranagunge	29.900	30.003	—0.003	WSW	29.0	82.5	14th	54.2	16th	80.5	56.0	69.1	+1.0	59.4
	West Burdwan	Herbampore	29.956	30.007	—0.083	North-westerly.	33.5	79.1	14th & 15th Jan.	54.7	16th, 17th Jan.	79.2	56.2	67.0	+1.0	58.5
	Moorshedabad	Krishnachur	29.957	30.007	—0.040	WNW	53.7	81.5	14th	53.1	17th	79.7	54.5	67.1	+2.6	60.7
	Nuddee	Jessore	29.990	30.005	—0.003	Calm	17.7	79.7	13th & 14th Jan.	56.5	16th & 17th Jan.	78.6	56.1	68.6	+3.0	57.7
SOUTH BENGAL.	Jessore	Chittagong	29.994	30.005	—0.005	Calm	42.1	81.1	11th	57.1	16th, 17th Jan.	79.7	58.1	68.0	+2.6	61.7
	Khoulna	Chittagong	29.984	30.005	—0.005	Calm	42.1	81.1	11th	57.1	16th, 17th Jan.	79.7	58.1	68.0	+2.6	61.7
	Chittagong	Demagiri	30.011	30.004	—0.053	Calm	21.0	79.3	11th Jan.	56.1	15th, 17th Jan.	77.0	57.0	67.0	+3.6	64.6
	Chittagong Hill Tracts	Barrisal	29.982	30.005	—	Calm	58.0	79.5	13th	54.0	15th	78.7	56.6	67.2	—	63.3
	Backergunge	Noakhally	29.983	30.003	—0.050	Calm	23	74.7	14th	53.0	16th & 17th Jan.	78.6	56.1	65.1	+1.1	60.0
	Noakhally	Farrakka	29.983	30.003	—0.050	Calm	23	74.7	14th	53.0	16th & 17th Jan.	78.6	56.1	65.1	+1.1	60.0
	Farrakka	Dacca	29.990	30.014	—0.050	Westerly	40.7	80.1	13th—15th Jan.	56.3	16th, 17th Jan.	79.8	57.0	68.0	+1.0	62.7
	Dacca	Commillah	29.990	30.006	—0.048	SE & NE	19.8	79.4	14th & 15th Jan.	55.5	16th, 17th Jan.	78.7	57.3	67.0	+3.1	63.8
	Tippurah	Mymensingh	29.966	30.006	—0.061	North-westerly.	30.7	77.3	11th	56.1	16th	75.1	59.3	67.2	+3.8	60.5
	Mymensingh	Bogra	29.938	30.003	—0.005	Calm	19.4	79.8	14th	56.1	16th	77.0	54.0	64.1	+0.6	58.4
NORTH BENGAL.	Bogra	Pubna	29.970	30.010	—0.055	Variable	6.0	78.0	14th	53.3	16th	77.0	54.0	62.0	+2.5	58.8
	Pubna	Rampore Beah.	29.945	30.002	—0.002	N	60.7	78.0	13th	56.7	17th	77.0	56.1	66.0	+4.0	60.0
	Rajshahy	Malda	29.920	30.005	—	NW	65.0	79.5	15th	55.5	16th & 17th Jan.	78.1	53.1	65.0	—	62.0
	Malda	Dinapore	29.962	30.005	—0.017	Northwesterly	37	79.1	13th	51.7	14th	77.1	56.2	65.2	+2.1	60.8
	Dinapore	Rangpore	29.962	30.005	—0.071	ENE	22	78.0	12th	52.0	16th	77.0	52.0	65.0	+3.0	60.0
	Rangpore	Jalpaiguri	29.733	30.006	—0.009	North-westerly.	18.1	—	?	51.0	13th	—	56.2	—	?	60.0
	Jalpaiguri	Cooch Behar	29.945	—	—	WNW	91.4	63.4	16th, 16th Jan.	35.0	12th	63.3	59.7	65.0	+4.6	37.9
	Cooch Behar	Darjeeling Hill Tracts	29.945	—	—	WNW	91.4	63.4	16th, 16th Jan.	35.0	12th	63.3	59.7	65.0	+4.6	37.9
	Darjeeling Hill Tracts	Purneah	29.954	30.000	—0.078	Calm	22.0	76.2	12th & 13th Jan.	49.5	16th	76.3	51.4	63.3	+1.0	64.7
	Purneah	North Bhanulpore	29.950	30.005	—0.005	SW	35	77.0	11th Jan.	52.0	16th	76.0	55.7	60.2	+4.0	58.0
SOUTH BENGAL.	North Bhanulpore	Mozufferpore	29.950	30.004	—0.051	Westerly	80.0	77.2	16th	47.0	17th	74.51	50.29	62.49	+2.7	54.3
	Mozufferpore	Darbhanga	29.925	30.001	—0.004	SW	25.0	77.3	17th	53.0	11, 12, 13, 16 Jan.	76.0	53.0	64.0	+6.0	57.0
	Darbhanga	Mothari	29.675	30.005	—0.070	SW	124.1	80.8	14th	52.0	11th	77.0	54.3	64.0	+4.6	56.0
	Champaran	Chupra	29.785	30.005	—0.005	W	58.0	78.4	14th, 15th	49.5	16th	76.4	51.5	64.8	+2.1	53.0
	Araon	Arrah	29.925	30.005	—0.001	Calm	62.0	78.8	15th	49.5	16th	76.0	51.4	64.0	+3.4	58.0
	Shahabad	Gya	29.945	30.006	—0.070	South-westerly.	101.4	80.0	14th	52.0	17th	78.5	53.3	60.0	+2.8	58.7
	Gya	Patna	29.925	30.001	—0.076	SW	22.4	78.1	15th	50.4	16th	76.0	53.2	64.5	+5.3	57.1
	Patna	Bankipore	29.950	30.005	—0.074	Calm	39	78.3	13th	51.0	16th	77.4	53.2	65.3	+3.2	57.2
	Bankipore	Bhagulpore	29.950	30.005	—0.074	Calm	39	78.3	13th	51.0	16th	77.4	53.2	65.3	+3.2	57.2
	Bhagulpore	Boamla	29.908	30.002	—	North-westerly.	24.0	80.0	16th	51.1	16th	78.5	53.3	66.7	—	57.8
SOUTH BENGAL.	Boamla	Hazaribagh	27.973	30.005	—0.051	SW	101.8	78.4	16th	51.6	16th, 17th Jan.	76.0	52.8	64.3	+2.7	60.1
	Hazaribagh	Mancher	27.941	30.005	—0.055	Calm	91.0	80.0	14th	47.0	16th	76.0	51.5	64.1	+2.5	58.0
	Mancher	Chyabana	29.267	30.074	—	Calm & WSW	17.8	84.5	14th	51.2	11th	81.4	62.0	66.7	—	69.5
	Chyabana															

Explanation.—Summary.—The normal means of air pressure and temperature are the arithmetic average or means of the reading during the same period for the last 10 years. The humidity of the atmosphere is expressed as percentage, saturated air being represented by 100. A clear sky is denoted by cloud and overcast sky by 10. The number in the parentheses is the number of the rainfall in that district determined from the returns sent in by the subdivisional station for the period in question during the past 10 years. A rainy day is one on which at least hundredth of an inch fell.

for the week ending Friday, the 17th of January 1890.

DISTRICT OBSERVATIONS.															METEOROLOGICAL DIVISION.
Average humidity at 5 A.M.	Average cloud amount at 5 A.M. for week.	Rainfall of week at observing station.	OF WEEK.		RAINFALL.						Average number of rainy days.	Normal number of rainy days.	Representative station.	DISTRICT.	
			Mean for district.	Normal mean.	Since 1st of month.			Since 15th May 1889.							
					Mean for district.	Normal mean.	Variation.	Mean for district.	Normal mean.	Variation.					
80	0.3	Nil	Nil	0.05	Nil	0.07	-0.02	74.88	85.24	+10.36	0.0	0.3	Pooree	Pooree	POOREE.
76	0.1	Nil	Nil	0.05	Nil	0.10	-0.10	60.24	51.63	+14.50	0.0	0.2	Gopalpore	Gopalpore	
80	1.7	Nil	Nil	0.05	Nil	0.10	-0.10	49.80	52.75	-2.95	0.0	0.1	False Point	False Point	
68	0	Nil	Nil	0.05	Nil	0.15	-0.15	49.80	52.75	-2.95	0.0	0.1	Outtack	Outtack	BALASORE.
90	0.1	Nil	Nil	0.07	Nil	0.10	-0.10	58.45	62.17	-3.72	0.0	0.2	Balasore	Balasore	
77	0	Nil	Nil	0.09	Nil	0.25	-0.25	40.29	5.32	-5.03	0.0	0.3	Maugor Island	South West Midnapore	
91	0	Nil	Nil	0.08	Nil	0.23	-0.23	53.38	51.41	+1.97	0.0	0.3	Midnapore	South 24-Pergunnahs	MIDNAPORE.
84	0	Nil	Nil	0.04	Nil	0.11	-0.11	45.83	44.42	-2.59	0.0	0.3	Calcutta	24-Pergunnahs	
76	0	Nil	Nil	0.01	Nil	0.08	-0.08	55.88	52.37	+3.51	0.0	0.1	Howrah	Howrah	
78	10	Nil	Nil	0.12	Nil	0.22	-0.22	52.44	51.40	+1.04	0.0	0.1	Burdwan	Burdwan	BURDWAN.
91	0.0	Nil	Nil	0.13	Nil	0.24	-0.24	51.15	49.25	+0.89	0.0	0.1	Bankoora	Bankoora	
91	0.1	Nil	Nil	0.05	Nil	0.13	-0.13	51.40	49.02	+2.47	0.0	0.2	Raneegunge	Raneegunge	
86	0.6	Nil	Nil	0.08	Nil	0.10	-0.10	53.30	52.80	+0.50	0.0	0.2	Barhampton	Barhampton	MOORSHEDABAD.
91	0.1	Nil	Nil	0.06	Nil	0.17	-0.17	100.02	113.19	-13.17	0.0	0.3	Krishnagar	Krishnagar	
91	0.1	Nil	Nil	0.03	Nil	0.18	-0.18	65.13	80.81	-15.68	0.0	0.1	Jessore	Jessore	
94	0.4	Nil	Nil	0.05	Nil	0.20	-0.20	77.89	70.01	+7.88	0.0	0.2	Chittagong	Chittagong	CHITTAGONG.
92	0	Nil	Nil	0.08	Nil	0.43	-0.43	90.20	100.20	-10.00	0.0	0.2	Domagiri	Chittagong Hill Tracts	
90	0	Nil	Nil	0.03	Nil	0.13	-0.13	60.32	55.54	+4.78	0.0	0.1	Barrisal	Barrisal	
90	0	Nil	Nil	0.04	Nil	0.14	-0.14	74.50	69.37	+5.13	0.0	0.1	Noakholly	Noakholly	NOAKHOLLY.
89	0.3	Nil	Nil	0.00	Nil	0.30	-0.30	55.45	60.12	-4.67	0.0	0.2	Furzedpore	Furzedpore	
94	0.4	Nil	Nil	0.08	Nil	0.17	-0.17	87.63	67.38	+20.25	0.0	0.1	Dacca	Dacca	
93	0	Nil	Nil	0.11	Nil	0.17	-0.17	61.81	57.10	+4.71	0.0	0.3	Commillah	Commillah	TIPPERAH.
97	0	Nil	Nil	0.12	Nil	0.10	-0.10	55.07	53.08	+1.99	0.0	0.2	Mymensingh	Mymensingh	
90	0.1	Nil	Nil	0.12	Nil	0.28	-0.28	54.30	53.00	+1.30	0.0	0.3	Bogra	Bogra	
97	0	Nil	Nil	0.14	Nil	0.23	-0.23	59.75	53.98	+5.77	0.0	0.3	Serajgonj	Serajgonj	SERAJGONJ.
99	0.9	Nil	Nil	0.06	Nil	0.11	-0.11	57.35	56.71	+0.64	0.0	0.3	Rampore	Rampore	
92	3	Nil	Nil	0.08	0.02	0.17	-0.15	55.15	73.80	-18.65	0.0	0.2	Maldah	Maldah	
90	1.4	Nil	Nil	0.04	0.00	0.00	0	117.10	111.20	+5.90	0.0	0.1	Dinapore	Dinapore	DINAPORE.
90	0.9	Nil	Nil	0.12	0.32	0.21	+0.11	133.07	120.40	+12.67	0.0	0.3	Runkpore	Runkpore	
92	0.3	Nil	Nil	0.00	Nil	0.10	-0.10	74.71	58.30	+16.41	0.0	0.2	Jalpaiguri	Jalpaiguri	
90	0.7	Nil	Nil	0.15	Nil	0.28	-0.28	48.00	45.89	+2.11	0.0	0.3	Darjeeling	Darjeeling Hill Tracts	DARJEELING.
90	3.1	Nil	Nil	0.21	Nil	0.27	-0.27	53.84	44.31	+9.53	0.0	0.3	Purneah	Purneah	
90	1.9	Nil	Nil	0.16	Nil	0.23	-0.23	40.13	42.43	-2.30	0.0	0.3	Mozufferpore	Mozufferpore	
74	0	Nil	Nil	0.24	Nil	0.32	-0.32	40.07	39.03	+1.04	0.0	0.4	Durbhunga	Durbhunga	DURBHUNGA.
80	1.6	Nil	Nil	0.24	Nil	0.32	-0.32	40.07	39.03	+1.04	0.0	0.4	Motihari	Motihari	
80	1.9	Nil	Nil	0.24	Nil	0.32	-0.32	40.07	39.03	+1.04	0.0	0.4	Chupra	Chupra	
80	2.0	Nil	Nil	0.21	Nil	0.31	-0.31	37.07	41.20	-4.13	0.0	0.3	Dohree	Dohree	DOHREE.
82	0.6	Nil	Nil	0.13	Nil	0.25	-0.25	63.40	41.03	+22.37	0.0	0.3	Buxar	Buxar	
80	0.6	Nil	Nil	0.13	Nil	0.19	-0.19	62.45	43.27	+19.18	0.0	0.3	Arrah	Arrah	
81	0	Nil	Nil	0.07	Nil	0.16	-0.16	54.15	50.50	+3.65	0.0	0.2	Gya	Gya	GYA.
80	0.4	Nil	Nil	0.00	Nil	0.28	-0.28	47.03	50.39	-3.36	0.0	0.2	Bankipore	Bankipore	
72	0	Nil	Nil	0.10	Nil	0.30	-0.30	44.84	40.01	+4.83	0.0	0.3	Bhagalpore	South Bhagalpore	
72	0	Nil	Nil	0.12	Nil	0.21	-0.21	38.35	46.66	-8.31	0.0	0.3	Monahyr	Monahyr	SOUTH BHAGALPORE.
72	0	Nil	Nil	0.15	Nil	0.25	-0.25	48.70	51.03	-2.33	0.0	0.4	Chyabassa	Chyabassa	
72	0	Nil	Nil	0.15	Nil	0.25	-0.25	48.70	51.03	-2.33	0.0	0.4	Santal Pergunnahs	Santal Pergunnahs	
72	0	Nil	Nil	0.15	Nil	0.25	-0.25	48.70	51.03	-2.33	0.0	0.4	Hasaribagh	Hasaribagh	HASARIBAGH.
72	0	Nil	Nil	0.15	Nil	0.25	-0.25	48.70	51.03	-2.33	0.0	0.4	Chyabassa	Chyabassa	
72	0	Nil	Nil	0.15	Nil	0.25	-0.25	48.70	51.03	-2.33	0.0	0.4	Chyabassa	Chyabassa	

Notes. The variations are negative when the mean for the week is less than the corresponding normal mean, and positive when greater.  
 Average cloud amount represents the part of the sky covered, the whole sky being denoted by 10. Under the head District observations of rainfall the normal means are the means of the district are the numerical average of the rainfall returns received in the district, i.e., from total rainfall at the subdivisional stations.

## Statement of Rainfall in Bengal for the week ending Friday (8 a.m.), the 17th of January 1890.

Meteorological division.	District.	Station.	RAINFALL.							TOTAL		Total rain-fall since 1st of month.	Average total rain-fall from 1st of month.	Total rain-fall since 16th May 1889.	Average rainfall from 16th May to date.
			Saturday, 11th January 1890.	Sunday, 12th January.	Monday, 13th January.	Tuesday, 14th January.	Wednesday, 15th January.	Thursday, 16th January.	Friday, 17th January.	Number rainy days.	of Rainfall week.				
UNDETAILED	Pooree	Pooree	...	...	...	...	...	...	...	Nd	Nd	Nd	Nd	80.63	81.06
		Khurdah	...	...	...	...	...	...	...	Nd	Nd	Nd	0.10	78.57	80.78
		Baupur	...	...	...	...	...	...	...	Nd	Nd	Nd	0.03	65.80	68.86
		False Point	...	...	...	...	...	...	...	Nd	Nd	Nd	0.12	78.80	83.37
		Gop	...	...	...	...	...	...	...	Nd	Nd	Nd	?	?	?
	Cuttack	Pipli	...	...	...	...	...	...	...	Nd	Nd	Nd	?	?	?
		Jagatsinghpore	...	...	...	...	...	...	...	Nd	Nd	Nd	0.08	73.97	62.81
		Bauki	...	...	...	...	...	...	...	Nd	Nd	Nd	0.06	50.43	40.32
		Cuttack	...	...	...	...	...	...	...	Nd	Nd	Nd	0.03	75.78	81.03
		Kendrapara	...	...	...	...	...	...	...	Nd	Nd	Nd	0.14	72.03	59.91
	Balasore	Jajpore	...	...	...	...	...	...	...	Nd	Nd	Nd	0.19	67.66	63.51
		Dharmasala	...	...	...	...	...	...	...	Nd	Nd	Nd	?	70.33	?
		Salsipore	...	...	...	...	...	...	...	Nd	Nd	Nd	?	72.47	?
		Chandimali	...	...	...	...	...	...	...	Nd	Nd	Nd	0.12	54.66	52.04
		Rhuddruck	...	...	...	...	...	...	...	Nd	Nd	Nd	0.08	67.60	51.00
SOUTH-WEST BENGAL.	Midnapore	Sorah	...	...	...	...	...	...	...	Nd	Nd	Nd	0.05	46.15	40.90
		Balasore	...	...	...	...	...	...	...	Nd	Nd	Nd	0.03	65.61	57.30
		Jellaisore	...	...	...	...	...	...	...	Nd	Nd	Nd	0.32	79.59	53.50
		Raripodah	...	...	...	...	...	...	...	Nd	Nd	Nd	0.18	73.79	53.40
		Contai	...	...	...	...	...	...	...	Nd	Nd	Nd	0.14	55.13	61.32
	24-Pargunnahs	Kanmor Island	...	...	...	...	...	...	...	Nd	Nd	Nd	0.14	56.14	60.00
		Tumlook	...	...	...	...	...	...	...	Nd	Nd	Nd	0.18	49.40	50.00
		Midnapore	...	...	...	...	...	...	...	Nd	Nd	Nd	0.26	46.26	44.00
		(Ghatta)	...	...	...	...	...	...	...	Nd	Nd	Nd	0.50	48.19	54.32
		Kakrahaty	...	...	...	...	...	...	...	Nd	Nd	Nd	?	5.00	?
	Howrah	Heria	...	...	...	...	...	...	...	Nd	Nd	Nd	?	6.00	?
		Bhagwanpore	...	...	...	...	...	...	...	Nd	Nd	Nd	?	61.72	?
		Garbeta	...	...	...	...	...	...	...	Nd	Nd	Nd	?	46.29	?
		Diamond Harbour	...	...	...	...	...	...	...	Nd	Nd	Nd	0.22	62.41	58.00
		Canning Town	...	...	...	...	...	...	...	Nd	Nd	Nd	?	57.80	?
	Hooghly	Alipore Jail	...	...	...	...	...	...	...	Nd	Nd	Nd	0.10	51.80	53.00
		Barrackpore	...	...	...	...	...	...	...	Nd	Nd	Nd	0.10	51.79	49.00
		Dum-Dum	...	...	...	...	...	...	...	Nd	Nd	Nd	0.20	60.54	51.00
		Batasat	...	...	...	...	...	...	...	Nd	Nd	Nd	0.24	57.61	50.00
		Buseerhat	...	...	...	...	...	...	...	Nd	Nd	Nd	0.24	60.32	54.00
	Burdwan	Howrah	...	...	...	...	...	...	...	Nd	Nd	Nd	0.26	59.12	51.00
		Mohoreka (Colobaria)	...	...	...	...	...	...	...	Nd	Nd	Nd	0.14	54.64	51.00
		Serampore	...	...	...	...	...	...	...	Nd	Nd	Nd	0.16	55.27	49.00
		Hooghly	...	...	...	...	...	...	...	Nd	Nd	Nd	0.10	51.00	47.00
		Jehanabad	...	...	...	...	...	...	...	Nd	Nd	Nd	1.10	41.10	54.00
	Bankura	Culna	...	...	...	...	...	...	...	Nd	Nd	Nd	0.00	41.32	44.00
		Burdwan	...	...	...	...	...	...	...	Nd	Nd	Nd	0.04	47.07	47.00
		Culna	...	...	...	...	...	...	...	Nd	Nd	Nd	0.20	48.11	47.00
		Ranekunge	...	...	...	...	...	...	...	Nd	Nd	Nd	0.13	55.43	46.00
		Manikpur	...	...	...	...	...	...	...	Nd	Nd	Nd	?	53.71	?
	Bardhaman	Bankura	...	...	...	...	...	...	...	Nd	Nd	Nd	0.06	50.70	51.00
		Bishnupore	...	...	...	...	...	...	...	Nd	Nd	Nd	0.06	57.40	51.00
		Mahara	...	...	...	...	...	...	...	Nd	Nd	Nd	0.06	50.00	50.00
		Khatra	...	...	...	...	...	...	...	Nd	Nd	Nd	0.12	65.01	63.00
		Indas	...	...	...	...	...	...	...	Nd	Nd	Nd	?	45.16	?
	Barrabhoon	Kotalpore	...	...	...	...	...	...	...	Nd	Nd	Nd	?	49.40	?
		Anda	...	...	...	...	...	...	...	Nd	Nd	Nd	?	46.44	?
		Gangajalghati	...	...	...	...	...	...	...	Nd	Nd	Nd	?	50.17	?
		Kaipore	...	...	...	...	...	...	...	Nd	Nd	Nd	?	58.36	?
		Soneamhi	...	...	...	...	...	...	...	Nd	Nd	Nd	?	54.33	?
	Nuddea	Bh. Soory	...	...	...	...	...	...	...	Nd	Nd	Nd	0.23	59.06	58.00
		Holampore	...	...	...	...	...	...	...	Nd	Nd	Nd	0.27	47.07	44.00
		Rampore Haut	...	...	...	...	...	...	...	Nd	Nd	Nd	0.27	47.76	51.00
		Botpore	...	...	...	...	...	...	...	Nd	Nd	Nd	?	54.07	?
		Murari	...	...	...	...	...	...	...	Nd	Nd	Nd	?	53.10	?
	Khoolna	Ranaghat	...	...	...	...	...	...	...	Nd	Nd	Nd	0.04	57.80	50.00
		Kishnaghat	...	...	...	...	...	...	...	Nd	Nd	Nd	0.11	42.05	40.00
		Chandanga	...	...	...	...	...	...	...	Nd	Nd	Nd	0.10	40.81	40.00
		Meherpore	...	...	...	...	...	...	...	Nd	Nd	Nd	0.10	63.05	67.00
		Koshatia	...	...	...	...	...	...	...	Nd	Nd	Nd	0.13	65.61	64.00
	Jessore	Bathura	...	...	...	...	...	...	...	Nd	Nd	Nd	0.35	57.51	55.00
		Baghat	...	...	...	...	...	...	...	Nd	Nd	Nd	0.41	54.06	50.00
		Khoolna	...	...	...	...	...	...	...	Nd	Nd	Nd	0.37	55.78	54.00
		Nakipur	...	...	...	...	...	...	...	Nd	Nd	Nd	?	?	?
		Rampal	...	...	...	...	...	...	...	Nd	Nd	Nd	?	?	?
	Moorsheadabad	Narail	...	...	...	...	...	...	...	Nd	Nd	Nd	0.22	40.47	45.00
		Jessore	...	...	...	...	...	...	...	Nd	Nd	Nd	0.17	60.36	63.00
		Jhmdah	...	...	...	...	...	...	...	Nd	Nd	Nd	0.18	50.66	50.00
		Masrurah	...	...	...	...	...	...	...	Nd	Nd	Nd	0.10	60.48	60.00
		Bongung	...	...	...	...	...	...	...	Nd	Nd	Nd	0.08	66.01	61.00
	Chittagong	Kandi	...	...	...	...	...	...	...	Nd	Nd	Nd	0.19	55.88	50.00
		Berhampore	...	...	...	...	...	...	...	Nd	Nd	Nd	0.30	46.16	51.00
		Lahara	...	...	...	...	...	...	...	Nd	Nd	Nd	0.05	47.13	50.00
		Arankunge	...	...	...	...	...	...	...	Nd	Nd	Nd	0.25	47.13	50.00
		Jungpore	...	...	...	...	...	...	...	Nd	Nd	Nd	0.20	55.01	50.00
EAST BENGAL	Chittagong	Lakshna	...	...	...	...	...	...	...	Nd	Nd	Nd	0.37	59.92	50.00
		Jungpore	...	...	...	...	...	...	...	Nd	Nd	Nd	?	40.25	?
		Akhraung	...	...	...	...	...	...	...	Nd	Nd	Nd	?	42.81	?
		Pattabari	...	...	...	...	...	...	...	Nd	Nd	Nd	?	?	?
		Cox's Bazar	...	...	...	...	...	...	...	Nd	Nd	Nd	0.22	122.60	135.00
	Chittagong Hill Tracts	Chittagong	...	...	...	...	...	...	...	Nd	Nd	Nd	0.13	76.43	80.00
		Kulmudsa	...	...	...	...	...	...	...	Nd	Nd	Nd	?	118.00	?
		Bakanga	...	...	...	...	...	...	...	Nd	Nd	Nd	?	63.00	?
		Rangamati	...	...	...	...	...	...	...	Nd	Nd	Nd	0.34	68.04	85.00
		Muma	...	...	...	...	...	...	...	Nd	Nd	Nd	0.11	67.20	79.00
	Bachergunge	Patuakhali	...	...	...	...	...	...	...	Nd	Nd	Nd	0.38	87.30	87.00
		Porosopore	...	...	...	...	...	...	...	Nd	Nd	Nd	0.35	72.16	80.00
		Burrisal	...	...	...	...	...	...	...	Nd	Nd	Nd	0.30	72.03	87.00
		Shola	...	...	...	...	...	...	...	Nd	Nd	Nd	0.21	70.20	81.00
		...	...	...	...	...	...	...	...	Nd	Nd	Nd	?	?	?

## Statement of Rainfall in Bengal for the week ending Friday (8 a.m.), the 17th of January 1890—contd.

Meteorological Division.	District.	Station.	RAINFALL.							TOTAL		Total rain-fall since 1st of month.	Average total rain-fall from 1st of month.	Total rain-fall since 15th May 1889.	Average rainfall from 15th May to date.
			Saturday, 11th January 1890.	Sunday, 12th January.	Monday, 13th January.	Tuesday, 14th January.	Wednesday, 15th January.	Thursday, 16th January.	Friday, 17th January.	Number of rainy days.	of Rainfall week.				
EAST BENGAL—contd.	Noakhali	Gouraddei ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	?	61.31	?
		Bauphal ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	?	62.89	?
		Noakhali ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.31	102.17	107.60
		Fenny ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.04	75.38	105.45
	Farrakka	Harishpore ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	?	82.70	?
		Rompanj ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	?	80.75	?
		Madaripore ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.26	60.84	85.16
	Dacca	Farrakka ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.08	63.40	85.16
		Goalundo ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.16	66.29	82.70
		Munshigunge ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.18	76.33	89.74
	Hill Tipperah	Dacca ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.14	75.07	84.18
		Narsingh ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.00	84.34	89.31
		Munshigunge ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.19	67.59	80.74
		Joydipore ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	?	66.61	?
	Tipperah	Agartola ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.31	44.68	61.23
		Comilla ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.02	62.17	75.75
		Chandpore ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.19	64.63	75.44
		Brahmanberia ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.38	56.64	61.40
	Mymensingh	Ramchandrapore ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	?	60.14	?
		Nasirnagar ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	?	80.59	?
		Daudkandi ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	?	62.20	?
		Kasba ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	?	62.44	?
	Mymensingh	Lakshmi ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	?	61.09	?
		Kishoreganj ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.30	69.56	80.43
		Atia (Tangaila) ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.20	61.06	75.16
		Mymensingh ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.10	94.45	73.79
	Pubna	Jamailpore ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.20	85.14	84.83
		Natalka ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.05	125.92	72.44
		Subornakhal ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	?	67.83	?
		Sherepore ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	?	149.94	?
	Bogra	Sherepore ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	?	87.00	?
		Nowkhilla ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.18	60.87	83.67
		Horra ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.19	60.26	85.20
		Panchbibi ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.11	64.06	85.41
	Rajshahi	Banulab ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.20	66.20	82.78
		Natore ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.37	58.91	84.08
		Naogaon ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.19	87.87	80.43
		Lalpur ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	?	86.73	?
	Maidah	Manda ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	?	66.37	?
		Maidah ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.21	60.53	81.50
		Chanchal ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.25	54.96	80.63
		Gajni ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	?	80.79	?
	Dinajpur	Silganj ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	?	51.77	?
		Mohadepore ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.18	85.63	86.60
		Churamon ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.03	81.41	81.46
		Kaungura ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.15	89.25	87.61
	Rangpur	Dinajpur ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.16	67.84	83.17
		Raibanshat ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.07	61.34	80.97
		Thakurgaon ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	?	87.47	?
		Bhawaniganj ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.20	87.65	81.49
	Jalpaiguri	(Gyabanda) ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.1	74.50	74.13
		Rangpur ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.15	80.97	75.08
		Kurigram ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.17	87.60	84.81
		Bagdoura ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	?	79.00	?
	Cooch Behar	Ulipore ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	?	?	?
		Jalpaiguri ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.03	123.92	116.46
		Alipore ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	?	119.88	?
		Pallacotta ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.20	127.43	?
	Dooars	Dabiganj ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	?	120.92	?
		Bhagatpore ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.02	138.93	?
		(Nagarkatta) ..		.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.10	94.19	86.78
		Dinhat ..		.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.05	123.34	117.08
	Darjeeling Hill.	Cooch Behar ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	Nd	121.87	104.31
		Mickilganj ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.03	127.43	111.10
		Machhanga ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.01	192.40	102.23
		Busa ..	.....	0.26	0.05	0.16	.....	.....	.....	Nd	Nd	Nd	0.01	127.74	102.61
	North Bengal	Biliguri ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.20	128.63	108.43
		Darjeeling ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.02	91.52	83.60
		Kalimpang ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.03	168.88	?
		Kurseong ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.16	105.37	89.97
	Purnea	Kinsheng ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.17	79.61	63.43
		Arra ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.11	63.45	61.00
		Purnea ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	?	?	?
		Gandaria ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	?	?	?
	North Bhagalpur.	Hairampore ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	?	?	?
		Matiari ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.20	60.85	49.89
		Kataganj ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.19	67.20	47.66
		Madhapore ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	?	87.65	?
	Durbhanga	Boopul ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.36	62.44	62.54
		Protaganj ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.18	57.01	47.50
		Tajpore ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.20	63.11	44.61
		Durbhanga ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	?	80.96	?
	Mouafferpore	Madhubani ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	?	85.84	?
		Bahera ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.27	85.00	69.64
		Boshara ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.30	44.41	65.07
		Bitamari ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	0.28	62.52	61.04
	Mouafferpore	Mouafferpore ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	?	37.00	?
		Para ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	?	41.12	?
		Nahua ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	?	?	?
		Nahar ..	.....	.....	.....	.....	.....	.....	.....	Nd	Nd	Nd	?	47.00	?

## Statement of Rainfall in Bengal for the week ending Friday (8 a.m.), the 17th of January 1890 - conold.

Meteorological Division.	District.	Station.	RAINFALL.							TOTAL.		Total rainfall since 1st of month.	Average total rainfall from 1st of month.	Total rainfall since 15th May 1889.	Average rainfall from 15th May to date.
			Saturday, 11th January 1890.	Sunday, 12th January.	Monday, 13th January.	Tuesday, 14th January.	Wednesday, 15th January.	Thursday, 16th January.	Friday, 17th January.	Number of rainy days.	of Rainfall week.				
NORTH BENGAL - continued.	Chumbarun.	Mohuri	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.28	74.79	44.46
		Hosna	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.26	62.20	47.75
		Banaka	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	69.97	?
		Barnurra	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	51.70	?
SOUTH BENGAL.	Saran.	Gopalpur	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.00	35.48	42.79
		Chandpur	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.20	44.20	41.20
	Shahabad.	Chandpur	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.20	40.74	40.20
		Buxar	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.40	47.44	38.20
		Dahra	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.10	44.60	39.70
		Maharaj	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.20	44.16	40.17
		Kanpur	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.20	39.41	40.40
		Amra	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.20	42.00	40.00
		Munshabad	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	?	?
	Gya.	Aurangabad	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.28	81.42	49.84
		Gya	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.20	32.80	40.30
		Noradab	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.20	31.50	39.10
		Jehanabad	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.37	32.00	29.00
		Arwal	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	34.00	?
		Madanpur	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	36.00	?
	Patna.	Madanpur	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	29.20	?
		Madanpur	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	17.00	?
		Patna	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	3.00	?
		Therapore	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.20	51.40	41.73
		Behar	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.20	45.00	41.25
		Barh	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.20	41.00	41.00
SOUTH BENGAL - continued.	Monghyr.	Barh	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.10	50.00	39.51
		Bokaro	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	43.20	?
		Hilsa	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	32.21	?
		Monghyr	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.28	47.02	39.05
		Monghyr	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.15	41.07	40.24
		Jamshedpur	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.24	50.40	42.00
	South Bhagalpur.	South Bhagalpur	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	50.10	?
		South Bhagalpur	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	49.02	?
		South Bhagalpur	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.15	45.00	41.01
		South Bhagalpur	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.21	35.34	43.43
		South Bhagalpur	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	4.07	?
		South Bhagalpur	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	?	?
	North Pergunnahs.	North Pergunnahs	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.05	50.00	50.00
		North Pergunnahs	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.12	49.04	47.05
		North Pergunnahs	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.05	35.30	35.15
		North Pergunnahs	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.00	50.75	50.07
		North Pergunnahs	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.22	49.40	49.42
		North Pergunnahs	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.10	45.21	45.20
SOUTH BENGAL - continued.	Hambergh.	Hambergh	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	50.41	?
		Hambergh	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	53.87	?
		Hambergh	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.10	38.00	47.20
		Hambergh	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.30	40.10	46.51
		Hambergh	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.21	30.24	46.01
		Hambergh	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.37	47.40	47.44
	Lohardugga.	Lohardugga	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.02	43.00	42.35
		Lohardugga	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	31.30	?
		Lohardugga	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	46.04	?
		Lohardugga	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	20.36	?
		Lohardugga	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	?	?
		Lohardugga	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	?	?
	Singbhoon.	Singbhoon	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.01	45.24	50.97
		Singbhoon	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.27	53.01	51.90
		Singbhoon	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.30	35.16	43.01
		Singbhoon	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	33.00	?
		Singbhoon	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	?	?
		Singbhoon	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	44.40	?
SOUTH BENGAL - continued.	Mandbhoon.	Mandbhoon	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	28.77	?
		Mandbhoon	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.25	45.70	44.25
		Mandbhoon	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	46.00	?
		Mandbhoon	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	56.70	?
		Mandbhoon	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	53.50	?
		Mandbhoon	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.12	45.40	45.40
	Mandbhoon.	Mandbhoon	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.25	33.10	44.70
		Mandbhoon	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	46.91	?
		Mandbhoon	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	?	?
		Mandbhoon	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	44.02	?
		Mandbhoon	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	51.42	?
		Mandbhoon	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	58.00	?

Explanation.—Indicates that no rain has fallen. If the return for any day has not been received, the corresponding space is left blank. If any of the returns are wanting, the corresponding spaces in the total rainfall columns are left blank.

CALCUTTA, the 21st January 1890.



**SUMMARY OF THE METEOROLOGICAL AND RAINFALL OBSERVATIONS  
TAKEN IN BENGAL FOR THE WEEK ENDING FRIDAY, THE 17th  
JANUARY 1890.**

The meteorology of Bengal for the week calls for few remarks. Ordinary north-east monsoon conditions have generally obtained over the greater part of the province, though there has been a tendency for moist southerly winds to set in at a few of the southern stations, which has caused humidity and also temperature to be rather higher than usual at this season. This setting in of southerly winds has apparently been connected with one or more disturbances which have existed over the north-west Himalayas, but these disturbances have not been sufficiently important, nor have they existed long enough to materially affect the weather in Bengal. For the greater part of the week, therefore, fine clear weather has obtained, except at the stations in and near the hills, where the sky has been somewhat clouded over. Temperature has been moderate, though rather above the normal, and humidity has been decidedly high at some stations. Over the greater part of the province northerly winds have generally been reported, but the current has been rather light and feeble. Pressure has been rather low during the week, but the changes from day to day have not been large, while rainfall has been entirely absent except at the single station of Buxa in the Darjeeling Hills district, where some light showers have fallen.

**Pressure.**—On the 11th, pressure had fallen over the whole province by amounts which varied from 0.03 inch to 0.07 inch, the fall being largest near the hills. During the following two days the pressure recovered itself slightly, but on the 14th there had been a slight fall which was succeeded by a further rise on the 15th. On the 16th the changes were a little variable, while on the 17th a slight rise was generally reported. For the whole week the mean pressure has been below the normal by amounts which have varied between 0.05 inch and 0.08 inch, the defects being generally largest at the northern stations, and particularly along the line of the hills.

**Temperature.**—Has been rather high throughout the week, and the mean temperature for the whole of the province has been about two and-a-half degrees above the normal. The excess has been even larger than this in Behar, where it has equalled more than three degrees. The distribution of temperature during the week, its range from day to night, and its variation from the normal are best seen in the following table, where the average maximum, minimum and mean temperatures for the week at nine typical stations in different districts of the province are compared with their normal values for the same period. Both day and night temperatures have been decidedly in excess at all these stations except at Cuttack, and as a general rule the day or maximum temperatures have been rather more largely in excess than the night or minimum temperatures. The excess in the day temperature above the normal at Darjeeling has been no less than 8.9°, which is most exceptionally large:—

*Table showing the excess or defect of the actual mean temperature from the normal for the week ending 17th January 1890.*

	Normal mean maximum temperature for the week ending 17th January.	Actual mean maximum temperature for the week ending 17th January 1890.	Variation of actual mean from the normal.	Normal mean minimum temperature for the week ending 17th January.	Actual mean minimum temperature for the week ending 17th January 1890.	Variation of actual mean from the normal.	Normal mean daily temperature for the week ending 17th January.	Actual mean daily temperature for the week ending 17th January 1890.	Variation of actual mean from the normal.
Cuttack	84.5	84.2	-0.3	60.3	59.4	-0.9	72.4	71.8	-0.6
Calcutta	77.0	79.6	+2.6	56.0	56.9	+0.9	66.5	67.8	+1.3
Dacca	78.7	79.3	+0.6	55.2	57.0	+1.8	66.9	68.5	+1.6
Burdwan	78.4	80.0	+1.6	55.3	55.0	-0.3	66.8	68.3	+1.5
Patna	72.6	75.0	+2.4	50.0	53.2	+3.2	61.5	64.5	+3.0
Gya	70.6	73.5	+2.9	50.0	53.2	+3.2	60.1	63.0	+2.9
Purneah	74.8	75.3	+0.5	48.8	51.4	+2.6	61.8	63.3	+1.5
Maneribagh	72.3	75.0	+2.7	51.1	52.8	+1.7	61.8	64.3	+2.5
Darjeeling	64.4	73.3	+8.9	35.6	39.7	+4.1	49.2	45.0	-4.2

**Rainfall.**—With the exception of two or three unimportant light showers at Buxa in the Darjeeling Hills district, the whole province has been rainless throughout the week.

The following table gives the summary of the temperature and rainfall data of each of the seven meteorological divisions of the province for the week ending Friday, the 17th of January 1890 :—

METEOROLOGICAL DIVISIONS.	TEMPERATURE.						RAINFALL.									
	Highest observed during week.	Lowest observed during week.	Averages for week.			Average mean of week above or below normal mean of week.	Of week.			Rainy days.			Since 1st of month.		Since 18th May 1889.	
			Of highest of each day.	Of lowest of each day.	Of mean for each day.		Average.	Normal average.	Variation.	Average number in week.	Normal average number in week.	Variation.	Average.	Normal average.	Average.	Normal average.
Orissa	83.3°	83.3	81.1°	80.6	70.3°	+0.4	Nil	0.06	-0.06	0.0	0.3	-0.2	Nil	0.10	63.91	53.28
South-West Bengal	83.3	83.1	79.5	80.7	68.1	+2.0	Nil	0.06	-0.06	0.0	0.3	-0.1	Nil	0.19	53.37	61.76
East Bengal	81.1	84.9	77.6	87.5	67.5	+2.7	Nil	0.06	-0.06	0.0	0.3	-0.1	Nil	0.23	73.58	73.36
North Bengal	79.3°	81.7	77.6°	84.3	66.3°	+2.6	Nil	0.09	-0.09	0.0	0.2	-0.1	0.03	0.16	73.16	70.08
North Behar	77.9	47.9	75.7	83.7	64.3	+3.1	Nil	0.14	-0.14	0.0	0.3	-0.3	Nil	0.23	57.65	60.42
South Behar	80.3	49.3	77.3	83.3	63.0	+3.3	Nil	0.15	-0.15	0.0	0.3	-0.3	Nil	0.33	66.16	63.97
Chuttia Nagpur	80.0°	67.0°	76.5°	82.5°	64.3°	+2.8°	Nil	0.18	-0.18	0.0	0.4	-0.4	Nil	0.29	43.05	60.17

\* Pooree, Jaijiguri, and Chyabases not included.

METEOROLOGICAL OFFICE, BENGAL ;  
The 21st January 1890.

A. PEDLER,  
Meteorological Reporter to the Govt. of Bengal.

Results of the Barometrical and Thermometrical Observations taken at the Meteorological Office, Chowringhee, from 12th to 18th January 1890.

MONTH.	Date.	Pressure at 10 A.M. corrected and reduced to 32° Fahr.	TEMPERATURE.					HYGROMETRY.				Rainfall past 24 hours.
			Daily mean.	Maximum.	Range.	Minimum.	Dry bulb at 10 A.M.	Wet bulb at 10 A.M.	Vapour tension at 10 A.M.	Dew point at 10 A.M.	Humidity at 10 A.M.	
		Inches.	°	°	°	°	°	°	Inches.	°	%	Inches.
Jan. 1890	12th	30.081	68.3	78.9	21.2	57.7	70.6	67.6	.637	65.9	85	Nil
"	13th	.042	70.2	80.9	21.5	59.4	73.6	68.6	.633	65.7	76	"
"	14th	.032	71.0	80.9	19.8	61.1	73.2	69.4	.609	67.3	82	"
"	15th	.054	67.7	78.9	22.5	56.4	71.4	63.6	.485	55.1	63	"
"	16th	.068	68.0	79.9	23.8	56.1	71.3	62.7	.452	56.1	63	"
"	17th	.090	68.0	80.0	24.0	56.0	72.2	65.0	.622	60.1	66	"
"	18th	.094	68.9	80.9	24.0	56.9	70.9	64.6	.526	60.4	70	"

The mean 10 A.M. pressure of the seven days ... .. Inches.  
30.059

The mean temperature of the seven days ... .. 68.9

The extreme variation of temperature ... .. 24.9

The maximum temperature ... .. 80.9

The mean 10 A.M. relative humidity of the seven days ... .. %  
72

The total fall of rain from 12th to 18th January 1890 ... .. Inches.  
Nil

The daily mean temperatures are the crude means of maximum and minimum temperatures.

C. LITTLE,

For Meteorological Reporter to the Govt. of India.

METEOROLOGICAL OFFICE, INDIA ;  
The 20th January 1890.

Results of the Meteorological Observations taken at the Alipore Observatory from  
12th to 18th January 1890.

Month.	Date.	Maximum in sun.	Number of hours of bright sunshine.	Mean pressure barometer at 32° Fahr.	TEMPERATURE.				HYGROMETRY.				WIND.		Rain.	WEATHER.
					Mean.	Maximum.	Range.	Minimum.	Mean wet bulb.	Vapour tension.	Dew point.	Humidity.	Prevailing direction.	Miles recorded.		
1890.		°		Inches.	°	°	°	°	°	Inches.	°	%			Inches.	
Jan.	12th	135.1	8.6	29.952	66.6	77.8	20.9	56.9	62.7	0.521	60.1	81	WSW and calm	35	Nil	Chiefly clear, $\Delta$ , =.
"	13th	133.9	9.2	29.950	68.1	79.0	21.7	57.3	63.8	0.538	61.0	81	WSW and SW	81	"	Clear, $\Delta$ , =.
"	14th	123.9	8.6	29.942	68.5	79.3	18.8	60.5	63.4	0.518	60.0	77	SW and NNE	48	"	Chiefly clear, $\Delta$ , =.
"	15th	129.6	8.4	29.975	66.1	77.5	22.0	55.5	60.6	0.457	56.4	73	NNE and NNW	47	"	Chiefly clear, $\Delta$ , =.
"	16th	129.3	9.2	30.002	65.9	75.6	23.0	56.6	60.4	0.455	56.3	73	NW by N and calm	31	"	Clear, $\Delta$ , =.
"	17th	124.9	9.1	30.015	66.8	79.9	23.2	54.7	60.7	0.451	56.0	69	NW by N and NNW	34	"	Clear, $\Delta$ , =.
"	18th	129.4	8.9	30.003	67.6	78.6	22.6	56.0	61.9	0.479	57.8	71	NNW and SW by W	47	"	Clear, $\Delta$ , =.

The mean pressure of the seven days ... 29.978  
The average pressure of the corresponding period for 24 years, S.-G.'s Office ... 30.023

The total number of hours of bright sunshine ... 61.9  
The maximum possible number of hours of sunshine ... 76.0

The mean temperature of the seven days ... 67.1  
The average temperature of the corresponding period for 24 years, S.-G.'s Office ... 67.1  
The extreme variation of temperature ... 23.2  
The maximum temperature ... 79.9

The highest velocity of the wind in one hour ... 3  
The highest pressure of wind on one square foot ... Not measurable.

The mean relative humidity ... 75  
The average relative humidity of the corresponding period for 24 years, S.-G.'s Office ... 70

The total fall of rain from 12th to 18th January 1890 ... Nil  
The average fall of the corresponding period for 24 years, S.-G.'s Office ... 0.03  
The total fall from 1st to 18th January 1890 ... Nil  
The average fall of the corresponding period for 24 years, S.-G.'s Office ... 0.14

The mean pressure, temperature, &c., are deduced from the traces of the Barograph and Thermograph and from observations made at 6h, 10h, 16h, and 22h.

The maximum and minimum temperatures are obtained from self-registering thermometers. All the thermometers are verified, and the readings have been corrected to a standard constructed and verified at the Kew Observatory. They are exposed under a thatched shed open at the sides, and are suspended four feet above the ground.

The barometer readings are corrected approximately to those of the standard, Newman's No 86, formerly at the Surveyor-General's Office.

The hygrometric elements are obtained from Tables III, IV, and V of the official tables computed in the Meteorological Office, and based on Regnault's modifications of August's formula.

The directions and the movement of the wind are taken from the trace of a Beckley's anemograph.

The mouth of the rain-gauge is one foot above the ground.

$\Delta$  dew; = fog.

C. LITTLE,

For Meteorological Reporter to the Govt. of India.

## MEMORANDUM.

For the week ending 4th January 1890, the returns of the principal Municipalities in Bengal disclosed the following particulars:—

1. Births were registered at the rate of 25·8 per 1,000 of population, and deaths at 23·7 per 1,000 as opposed to 24 and 27·9 per 1,000, respectively, during the preceding week ending 28th December 1889, indicating an improvement in the registration of births with a considerable falling off in that of deaths.

2. In the following Municipalities births and deaths were registered at the highest rates:—

Births.			Deaths.		
		Ratio per mille.			Ratio per mille.
Darjiling	...	51·9	Utterpara	...	81·9
Narainganj	...	49·7	Poori	...	81·8
Durbhanga	...	40·1	Comillah	...	57·7
Monohyr	...	39·8	Narainganj	...	53·8
Bhagulpore	...	38·0	Jessore	...	49·0
Utterpara	...	37·7	Hughli and Chinsurah	...	47·6
Chupra	...	36·2	Burdwan	...	44·2
Arrah	...	32·3	Serampore	...	34·3
Bali	...	31·6	Darjiling	...	37·0
Serampore	...	31·4	Ranaghat	...	35·4
Comillah	...	30·8	Rampore Baulkah	...	31·6
			Chittagong	...	30·6

3. The subjoined table gives the death-rates from the following specific diseases. The figures denote that, as compared with the results of the preceding week, there was a diminution of mortality from all the diseases excepting small-pox, *vide* figures below:—

	Ratio per mille during the weeks ending—	
	4th January 1890.	28th December 1889.
Cholera	2·2	3·2
Small-pox	5	4
Fever	9·8	10·4
Bowel-complaints	8·6	6·8
Injury	2	6
Other causes	7·3	8·4

4. Of the diseases mentioned above, while small-pox and bowel-complaints were noticeably fatal only in the Poori town, viz., at the rates of 14·7 and 12·5 per 1,000 of population, respectively, cholera, fever and the maladies classed under the head of "Other causes" caused the highest mortality in the following Municipalities:—

Cholera.		Fever.		Other causes.	
	Ratio per mille.		Ratio per mille.		Ratio per mille.
Jessore	24·5	Poori	31·5	Utterpara	37·7
Comillah	19·2	Burdwan	27·4	Poori	21·0
Chittagong	18·8	Rampore Baulkah	23·6	Serampore	19·6
Narainganj	16·6			Comillah	19·2
Hughli and Chinsurah	11·5			Midnapore	13·9
Dacca	4·5			Burdwan	12·2
				Hughli and Chinsurah	11·5
				Bhagulpore	10

5. It is observable that Poori continues to suffer very severely from small-pox which first appeared in the town a fortnight ago.

6. The mortality of the week classified under the heads of *Sex*, *Class* and *Age* stood as follows:—

According to Sex.		According to Class.		According to Age.	
	Ratio per mille.		Ratio per mille.		Ratio per mille.
Males	25·0	Hindus	23·6	Under 1 year	302·8
Females	22·3	Mahomedans	24·2	1 and under 5 years	20·7
Ratio of male deaths to every 100 female deaths, calculated on the proportion such mortality bears to the total male and female population	114	Buddhists	51·4	5 " 10 "	13·7
		Other classes	76·8	10 " 15 "	6·5
				15 " 20 "	16·1
				20 " 30 "	13·6
				30 " 40 "	18·1
				40 " 50 "	15·0
				50 " 60 "	22·2
				60 years and upwards	69·6

The 20th January 1890.

W. H. GREGG, Dip. Publ. Health, Camb.,  
Sanitary Commissioner for Bengal.

[illegible]



DISTRICTS.		NAMES OF MUNICIPALITIES.		Class.										Age.										Ratio per 1,000 of Population per Annum.									
				Deaths among—										Deaths.										Ratio per 1,000 of Population per Annum.									
				Ratio per 1,000 of Population per Annum.										Deaths.										Ratio per 1,000 of Population per Annum.									
				Christians.	Hindus.	Mahomedans.	Buddhists.	Other classes.	Under 1 year.	1 and under 5 years.	5 and under 10 years.	10 and under 15 years.	15 and under 20 years.	20 and under 30 years.	30 and under 40 years.	40 and under 50 years.	50 and under 60 years.	60 years and up.	Under 1 year.	1 and under 5 years.	5 and under 10 years.	10 and under 15 years.	15 and under 20 years.	20 and under 30 years.	30 and under 40 years.	40 and under 50 years.	50 and under 60 years.	60 years and up.					
Burdwan	Burdwan	14	305	587	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...							
Midnapore	Midnapore	9	180	570	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...							
North	North	23	473	306	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...							
Seemapore	Seemapore	19	302	354	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...							
Uttarpore	Uttarpore	9	781	2358	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...							
Howrah	Howrah	29	214	355	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...							
Ball	Ball	7	271	397	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...							
Kishinagar	Kishinagar	3	140	120	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...							
Kanchal	Kanchal	3	132	134	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...							
Santipore	Santipore	6	151	58	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...							
Jessore	Jessore	3	578	404	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...							
Rajahmundry	Rajahmundry	4	210	474	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...							
Darjiling	Darjiling	5	556	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...							
Dacca	Dacca	23	323	172	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...							
Obttagong	Obttagong	4	339	700	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...							
Tipperah	Tipperah	1	90	340	434	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...							
Palna	Palna	25	109	51	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...							
Gya	Gya	31	229	129	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...							
Shahabad	Shahabad	9	151	84	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...							
Moultehpore	Moultehpore	1	17	125	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...							
Darbhanga	Darbhanga	20	213	296	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...							
Saran	Saran	11	164	44	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...							
Shahdol	Shahdol	10	209	131	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...							
Monohr	Monohr	16	186	348	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...							
Purneah	Purneah	1	57	92	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...							
Poori	Poori	29	827	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...							
Total	Total	344	2376	242	514	768	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...							

W. H. GREGG, Dip. Publ. Health, Camb.

OFFICE OF SANITARY COMMISSIONER FOR BENGAL,

The 20th January 1890.

## PUBLIC WORKS DEPARTMENT, IRRIGATION BRANCH, BENGAL.

Statements showing Quantities of Goods carried during the month of October 1889.

## ORISSA CIRCLE.

## TALDUNDA CANAL SYSTEM.

LENGTH OF CANAL OPEN { TALDUNDA CANAL, 27 MILES.  
MACHGONG „ 4 „

Number of boats or rafts.	DESCRIPTION.	TOTAL GOVERNMENT AND PRIVATE.				PRIVATE.		REMARKS.
		Quantity—Tons.			Value.	Quantity.	Value.	
		Up.	Down.	Total.	Rupess.	Tons.	Rupess.	
3	1. Grain ...	.....	26	26	725	26	725	
...	2. Cotton ...	.....	.....	.....	.....	.....	.....	
...	3. Oilseeds ...	.....	.....	.....	.....	.....	.....	
3	4. Salt ...	.....	34	34	3,290	34	3,290	
...	5. Piece-goods ...	.....	.....	.....	.....	.....	.....	
...	6. Metal ...	.....	.....	.....	.....	.....	.....	
22	7. Building materials ...	.....	390	390	465	10	60	
...	8. Miscellaneous ...	.....	.....	.....	.....	.....	.....	
1	9. Fuel ...	.....	9	9	60	9	60	
1 raft	10. Timber No.	.....	1	1	2	1	2	
3 rafts	11. Bamboos "	.....	3,000	3,000	50	3,000	50	
29 & 4 rafts.	12. Total ...	{ .....	459 & 3,001 No.	459 & 3,001 No.	{ 4,592 }	79 & 3,001 No.	{ 4,187 }	
22 & 7 rafts.	13. Total of same month last year.	{ 12 .....	255 & 6,017 No.	267 & 6,017 No.	{ 9,305 }	267 & 6,017 No.	{ 9,305 }	
14. Total number of boats plying cargo No.		.....	29	29	Total tollage of month— 24 + 25 + 26 + 26½ ...		Rs. A. P. 230 10 6	
15. Total number of boats plying passenger No.		10	3	13				
16. Total empty boats		30	10	40				
16. Total registered tonnage, cargo, private Tons		.....	150	150	Total tollage of same month last year ...		207 12 6	
16½. Ditto ditto, Government Tons		.....	626	626				
17. Total registered tonnage, passenger Tons		294	10	304	Memorandum of Tollage.			
17½. Ditto ditto, empty Tons		319	235	554				
18. Ton-mileage ...		5,617	11,287	16,904	1. Balance not recovered on the 1st of the month ...		Rs. A. P. 4 11 0	
19. Estimated value of cargo Rs.		.....	4,540	4,540				
20. Number of passengers ...		8	599	607				
21. Rafts, bamboos No.		.....	3,000	3,000				
22. Do., bullahs "		.....	1	1				
23. Estimated value of rafts Rs.		.....	52	52	2. Tollage per month ...		230 10 6	
24. Tollage on boats "		64-4-0	138-7-0	202-11-0				
25. Compounded tollage on boats Rs.		.....	.....	.....	3. Total ...		235 5 6	
26. Tollage on rafts "		.....	1-15-6	1-15-6				
26½. Two boats' demurrage for 60 days ...		.....	.....	26-0-0	4. Amount credited in the accounts of the month ...		235 5 6	
27. Total tollage on boats per ton-mile Rs.		.....	.....	0-0-2-30				
28. Total tollage on rafts per 100 cubic feet Rs.		.....	.....	.....	5. Balance due at the end of the month ...		.....	

## KENDRAPARA CANAL SYSTEM.

LENGTH OF CANAL OPEN, 75 MILES.

Number of boats or rafts.	DESCRIPTION.	TOTAL GOVERNMENT AND PRIVATE.			PRIVATE.		REMARKS.
		Quantity—Tons.			Value.	Quantity.	
		Up.	Down.	Total.	Rupees.	Tons.	
91	1. Grain ...	253	695	948	64,350	948	64,350
...	2. Cotton ...	.....	.....	.....	.....	.....	.....
8	3. Oilseeds ...	4	68	72	7,300	72	7,300
13	4. Salt ...	7	33	40	2,270	40	2,270
...	5. Piece-goods ...	.....	.....	.....	.....	.....	.....
...	6. Metal ...	.....	.....	.....	.....	.....	.....
47	7. Building materials ...	3	810	813	8,750	456	7,620
69	8. Miscellaneous ...	423	293	716	37,960	697	28,360
8	9. Fuel ...	25	.....	25	80	25	80
18 rafts	10. Timber ...	126 c. ft.	1,542 c. ft.	1,668 c. ft.	250	1,668 c. ft.	250
...	11. Bamboos ...	.....	.....	.....	.....	.....	.....
236 & 18 rafts.	12. Total ...	{ 715 & 126 c. ft.	{ 1,899 & 1,542 c. ft.	{ 2,614 & 1,668 c. ft.	1,20,960 {	{ 2,338 & 1,668 c. ft.	{ 1,10,730
253	13. Total of same month last year.	984	1,160	2,144	2,82,250	2,141	2,82,250
		Up.	Down.	Total.			
14.	Total number of boats plying cargo No.	102	134	236			Rs. A. P.
15.	Total number of boats plying passenger No.	55	55	110	Total tollage of month— 24 + 25 + 26 ...		4,455 2 8
15½.	Ditto empty boats ..	136	144	280	Total tollage of same month last year ...		4,368 1 6
16.	Total registered tonnage, cargo, private Tons	1,458	2,582	4,040	Memorandum of Tollage.		
16½.	Ditto ditto, Government ..	21	666	687			
17.	Total registered tonnage, passenger Tons	1,881	1,893	3,774			
17½.	Ditto ditto empty boats ..	952	578	1,530			
18.	Ton-mileage ...	191,870	235,680	427,550			
19.	Estimated value of cargo Rs.	28,230	92,480	1,20,710			
20.	Number of passengers ...	3,254	3,289	6,543			
21.	Rafts, bamboos C. ft.	.....	.....	.....			
22.	Do., timber ..	126	1,542	1,668			
23.	Estimated value of rafts Rs.	50	200	250			
24.	Tollage on boats ..	1,844-3-5	2,600-6-11	4,444-10-4	3.	Total ...	8,352 6 6
25.	Compounded tollage on boats Rs.	.....	.....	.....			
26.	Tollage on rafts ..	1-4-6	9-3-10	10-8-4	4.	Amount credited in the accounts of the month ...	4,033 5 7
27.	Total tollage on boats per ton-mile	.....	.....	0-0-2			
28.	Total tollage on rafts per 100 cubic feet	.....	.....	0-10-1	5.	Balance due at the end of the month ...	4,319 0 11

## HIGH LEVEL CANAL, RANGE I.

LENGTH OF CANAL OPEN, 33 MILES.

Number of boats or rafts.	DESCRIPTION.	TOTAL GOVERNMENT AND PRIVATE.			PRIVATE.		REMARKS.
		Quantity—Tons.			Value.	Quantity.	
		Up.	Down.	Total.	Rupess.	Tons.	
47	1. Grain ...	165	4	169	8,960	169	8,960
2	2. Cotton ...	...	7	7	1,900	7	1,900
23	3. Oilseeds ...	111	...	111	9,360	111	9,360
30	4. Salt ...	...	82	82	6,930	82	6,930
...	5. Piece-goods ...	...	...	...	...	...	...
...	6. Metal ...	...	...	...	...	...	...
37	7. Building materials ...	71	224	295	1,140	71	750
35	8. Miscellaneous ...	84	27	111	9,050	111	9,050
8	9. Fuel ...	62	...	62	190	62	190
3 rafts.	10. Timber ...	5,826 c. ft.	...	5,826 c. ft.	900	5,826 c. ft.	900
...	11. Bamboos ...	...	...	...	...	...	...
182 & 3 rafts.	12. Total ...	493 & 5,826 c. ft.	344	837 & 5,826 c. ft.	38,430	113 & 5,826 c. ft.	38,040
284	13. Total of same month last year ...	824	239	1,063	56,830	1,063	56,830
		Up.	Down.	Total.	Total tollage of month— 24 + 25 + 26 ...		Rs. A. P. 568 4 7
4.	Total number of boats plying cargo No.	114	68	182	Total tollage of same month last year ...		630 2 6
5.	Total number of boats plying passenger No.	11	5	16	Memorandum of Tollage.		
54.	Ditto empty boats ..	66	98	164			
6.	Total registered tonnage, cargo, private Tons	923	268	1,191	Rs. A. P.		
64.	Ditto ditto, Government ..	...	445	445			
7.	Total registered tonnage, passenger Tons	47	21	68	1. Balance not recovered on the 1st of the month ...		
74.	Ditto empty boats ..	255	362	617			
8.	Ton-mileage ...	35,655	21,375	57,030	2. Tollage per month ...		
9.	Estimated value of cargo Rs.	24,120	13,410	37,530			
10.	Number of passengers ...	45	28	73	3. Total ...		
11.	Rafts, bamboos C. ft.	...	...	...			
12.	Do., timber ..	5,826	...	5,826	4. Amount credited in the accounts of the month		
13.	Estimated value of rafts Rs.	900	...	900			
14.	Tollage on boats ..	304-13-4	167-2-6	471-15-10	5. Balance due at the end of the month ...		
15.	Compounded tollage on boats Rs.	...	...	...			
16.	Tollage on rafts ..	96-4-9	...	96-4-9	70 14 6		
17.	Total tollage on boats per ton-mile Rs.	...	...	0-0-16			
18.	Total tollage on rafts per 100 cubic feet Rs.	...	...	1-10-5			

## HIGH LEVEL CANAL, RANGE II.

LENGTH OF CANAL OPEN, 12½ MILES.

Number of boats or rafts.	Description.	TOTAL GOVERNMENT AND PRIVATE.			PRIVATE.		REMARKS.
		Quantity—Tons.			Value.	Quantity.	
		Up.	Down.	Total.	Rupess.	Tons.	
20	1. Grain ...	51½	7	58½	2,409	58½	2,409
...	2. Cotton ...	.....	.....	.....	.....	.....	.....
...	3. Oilseeds ...	.....	.....	.....	.....	.....	.....
1	4. Salt ...	.....	4	4	560	4	560
10	5. Piece-goods ...	.....	11	11	3,080	11	3,080
...	6. Metal ...	.....	.....	.....	.....	.....	.....
45	7. Building materials ...	21½	332	353½	402	...	.....
7	8. Miscellaneous ...	2½	22	24½	2,254	24½	2,254
4	9. Fuel ...	.....	12	12	33	3	6
23 rafts	10. Timber ...	.....	3,204 c. ft.	3,204 c. ft.	1,602	3,204 c. ft.	1,602
...	11. Bamboos ...	.....	.....	.....	.....	.....	.....
87 & 23 rafts.	12. Total ...	{ 75½	{ 388 & 3,204 c. ft.	{ 463½ & 3,204 c. ft.	{ 10,340	{ 101 & 3,204 c. ft.	{ 9,911
125 & 4 rafts.	13. Total of same month last year.	{ 265	{ 237½ & 53 No.	{ 502½ & 53 No.	{ 20,703	{ 410½ & 53 No.	{ 29,622
14. Total number of boats plying cargo ...	No.	22	65	87	Total tollage of month— 24 + 25 + 26 ...		Rs. A. P. 225 1 3
15. Total number of boats plying passenger ...	No.	2	3	5	Total tollage of same month last year ...		192 6 6
16½. Ditto empty boats ...	"	53	18	71	Memorandum of Tollage.		
16. Total registered tonnage, cargo and boat ...	Tons	109	94	203			
16½. Ditto Govt. boat ditto ...	"	43	692	725	1. Balance not recovered on the 1st of the month ...		
17. Total registered tonnage, passenger ...	Tons	4	5	9			
17½. Ditto empty ditto ...	"	309	45	354	2. Tollage per month ...		225 1 3
18. Ton-milage ...	...	5,192	8,640	13,832	3. Total ...		252 5 0
19. Estimated value of cargo ...	Rs.	2,439	6,299	8,738	4. Amount credited in the accounts of the month ...		252 5 0
20. Number of passengers ...	...	249	199	448	5. Balance due at the end of the month ...		.....
21. Rafts, bamboos ...	C. ft.	.....	.....	.....			
22. Do., bullocks ...	"	.....	3,204	3,204			
23. Estimated value of rafts ...	Rs.	.....	1,602	1,602			
24. Tollage on boats ...	"	55-8-0	143-12-0	199-4-0			
25. Compounded tollage on boats ...	Rs.	.....	...	.....			
26. Tollage on rafts ...	"	.....	25-13-3	25-13-3			
27. Total tollage on boats per ton-mile ...	Rs.	.....	.....	0-0-2 76			
28. Total tollage on rafts per 100 cubic feet ...	Rs.	.....	.....	0-12-10			



## HIGH LEVEL CANAL, RANGE III.

LENGTH OF CANAL OPEN, 19 MILES.

Number of boats or rafts.	DESCRIPTION.	TOTAL GOVERNMENT AND PRIVATE.				PRIVATE.		REMARKS
		Quantity—Tons			Value.	Quantity.	Value.	
		Up.	Down.	Total.	Rupess.	Tons.	Rupess.	
12	1. Grain ...	27½	4½	32	1,664	32	1,664	
...	2. Cotton ...	...	...	...	...	...	...	
...	3. Oilseeds ...	...	...	...	...	...	...	
2	4. Salt ...	...	6½	6½	744	6½	744	
...	5. Piece-goods ...	...	...	...	...	...	...	
...	6. Metal ...	...	...	...	...	...	...	
15	7. Building materials ...	...	135	135	234	...	...	
2	8. Miscellaneous ...	...	9	9	1,812	9	1,812	
...	9. Fuel ...	...	...	...	...	...	...	
2 rafts	10. Timber ...	...	180 c. ft.	180 c. ft.	78	180 c. ft.	78	
...	11. Bamboos ...	...	...	...	...	...	...	
1 & rafts.	12. Total ...	{ 27½ ...	155 & 180 c. ft.	182½ & 180 c. ft.	{ 4,532 }	47½ & 180 c. ft.	{ 4,298 }	
59	13. Total of same month last year.	116	53½	169½	13,223	165½	13,210	
		Up.	Down.	Total.				Rs. A. P.
Total number of boats plying cargo No.		11	20	31	Total tollage of month— 24 + 25 + 26 ...			76 8 9
Total number of boats ply- ing passenger No.		...	...	...	Total tollage of same month last year ...			71 9 3
Ditto empty ditto ..		21	11	32				
Total registered tonnage, cargo and boat Tons		55	40	95				
Ditto Govt. ditto ..		...	270	270	Memorandum of Tollage.			
Total registered tonnage, passenger Tons		...	...	...				
Ditto empty ditto ..		125	26	151				Rs. A. P.
Ton-mileage ...		1,155	1,676	2,831	1. Balance not recovered on the 1st of the month ...			2 6 0
Estimated value of cargo Rs.		1,301	3,153	4,454	2. Tollage per month ...			76 8 9
Number of passengers ..		215	148½	363½				
Rafts, bamboos C. ft.		...	...	...				
Do., bullahs ..		...	180	180	3. Total ...			78 14 9
Estimated value of rafts Rs.		...	78	78				
Tollage on boats ..		19-11-9	54-15-0	74-10-9	4. Amount credited in the accounts of the month ...			78 14 9
Compounded tollage on boats Rs.		...	...	...				
Tollage on rafts ..		...	1-14-0	1-14-0				
Total tollage on boats per ton-mile Rs.		...	...	0-0-5-06				
Total tollage on rafts per 100 cubic feet Rs.		...	...	1-0-8	5. Balance due at the end of the month ...			...

## JAJEPORE CANAL

LENGTH OF CANAL OPEN, 6½ MILES.

Number of boats or rafts.	DESCRIPTION.	TOTAL GOVERNMENT AND PRIVATE				PRIVATE.		REMARKS.
		Quantity—Tons.			Value.	Quantity.	Value.	
		Up.	Down.	Total.	Rupces.	Tons.	Rupces.	
2	1. Grain	.....	7½	7½	380	7½	380	
...	2. Cotton	.....	.....	.....	.....	.....	.....	
...	3. Oilseeds	.....	.....	.....	.....	.....	.....	
...	4. Salt	.....	.....	.....	.....	.....	.....	
...	5. Piece-goods	.....	.....	.....	.....	.....	.....	
...	6. Metal	.....	.....	.....	.....	.....	.....	
...	7. Building materials	.....	.....	.....	.....	.....	.....	
14	8. Miscellaneous	.....	5	5	280	5	280	
...	9. Fuel	.....	.....	.....	.....	.....	.....	
...	10. Timber	.....	.....	.....	.....	.....	.....	
...	11. Bamboos	.....	.....	.....	.....	.....	.....	
16	12. Total	.....	12½	12½	660	12½	660	
23 & 15 rafts.	13. Total of same month last year.	128½ & 648 No.	...	128½ & 648 No.	4,624	33½ & 648 No.	4,540	

	Up.	Down.	Total.		Ra. A. P.
14. Total number of boats plying cargo No.	...	16	16	Total tollage of month— 24 + 25 + 26	6 5 0
15. Total number of boats plying passenger No.	1	2	3		
15½. Ditto empty boats	16	2	18	Total tollage of same month last year	32 7 6
16. Total registered tonnage, cargo and boat Tons	.....	25	25		
16½. Ditto Govt. boat	..	.....	.....		
17. Total registered tonnage, passenger Tons	2	4	6		
17½. Ditto, empty boats	.....	.....	.....		
18. Ton-mileage	144	235	379		
19. Estimated value of cargo Rs	.....	660	660		
20. Number of passengers	8	22	30		
21. Rafts, bamboos C. ft.	.....	.....	.....		
22. Do., bullahs	.....	.....	.....		
23. Estimated value of rafts Rs.	.....	.....	.....		
24. Tollage on boats	1-14-6	4-6-6	6-5-0		
25. Compounded tollage on boats Rs.	.....	.....	.....		
26. Tollage on rafts	.....	.....	.....		
27. Total tollage on boats per ton-mile Rs.	.....	.....	6-0-3-29		
28. Total tollage on rafts per 100 cubic feet Rs.	.....	...	.....		
				Memorandum of Tollage.	
					Ra. A. P.
				1. Balance not recovered on the 1st of the month	0 8 6
				2. Tollage per month	6 5 0
				3. Total	6 8 6
				4. Amount credited in the accounts of the month	6 8 6
				5. Balance due at the end of the month	...

SOUTH-WESTERN CIRCLE.  
MIDNAPORE CANAL.  
LENGTH OF CANAL OPEN. 53 MILES.

Number of boats or rafts.	DESCRIPTION.	TOTAL GOVERNMENT AND PRIVATE.				PRIVATE.		REMARKS.
		Quantity—Tons.			Value	Quantity.	Value.	
		Up.	Down	Total.	Rupees	Tons.	Rupees.	
950	1. Grain	5,124	344	5,468	3,05,012	5,468	3,05,012	• 10 mds.
1	2. Cotton	.....	.....	.....	180	.....	180	
16	3. Oilseeds	52	53	105	9,766	105	9,766	
69	4. Salt	.....	751	751	78,867	751	78,867	
4	5. Piece-goods	2	35	37	98,500	37	98,500	
8	6. Metal	46	20	66	62,246	66	62,246	
27	7. Building materials	97	21	118	856	118	856	
320	8. Miscellaneous	795	668	1,463	2,52,382	1,463	2,52,382	
24	9. Fuel	44	57	101	2,032	101	2,032	
86 rafts	10. Timber	36,205 c. ft.	94 c. ft.	36,299 c. ft.	9,545	36,299 c. ft.	9,545	
1 raft	11. Bamboos	800 ..	.....	800	48	800 ..	48	
1,419 & 87 rafts.	12. Total	6,160 & 37,005 c. ft.	1,949 & 94 c. ft.	8,109 & 37,099 c. ft.	8,109 & 37,099 c. ft.	8,109 37,099 c. ft.	8,109 37,099 c. ft.	
1,804 & 85 rafts	13. Total of same month last year.	7,925 & 26,596 c. ft.	2,763 & 541 c. ft.	10,688 & 27,137 c. ft.	11,23,048 10,688 27,137 c. ft.	11,20,048 10,688 27,137 c. ft.	11,20,048 10,688 27,137 c. ft.	

	Up.	Down.	Total.		Rs. A. P.
14. Total number of boats plying cargo No.	1,124	295	1,419	Total tollage of month— 24 + 25 + 26	10,558 2 9
15. Total number of boats plying passenger No.	607	739	1,346	Total tollage of same month last year	13,019 4 6
15½. Ditto empty ..	524	877	1,401		
16. Total registered tonnage, cargo Tons	14,180	3,241	17,421	Memorandum of Tollage.	
17. Total registered tonnage, passenger Tons	3,803	4,908	8,711		
17½. Ditto empty ..	1,942	3,758	5,700		
18. Ton-milage	425,125	231,004	656,129	1. Balance not recovered on the 1st of the month ...	4,490 12 10
19. Estimated value of cargo Rs.	4,18,141	3,91,700	8,09,841	2. Tollage per month ...	10,558 2 9
20. Number of passengers ..	7,005	8,768	15,773	3. Total ..	15,057 15 7
21. Rafts, bamboos C. ft.	800	.....	800		
22. Do., buliahs ..	36,205	94	36,299	4. Amount paid into Treasury during the month ...	12,150 1 6
23. Estimated value of rafts Rs.	9,374	219	9,593		
24. Tollage on boats ..	6,737-3-9	3,541-6-9	10,278-9-9	5. Balance due at the end of the month ...	2,907 14 1
25. Compounded tollage on boats Rs.	.....	.....	...		
26. Tollage on rafts ..	275-13-0	3-12-0	279-9-0		
27. Total tollage on boats per ton-mile Rs.	.....	.....	0-0-3		
28. Total tollage on rafts per 100 cubic feet Rs.	.....	.....	0-12-0		

## HIDGELLER TIDAL CANAL.

LENGTH OF CANAL OPEN, 29 MILES.

Number of boats or rafts.	DESCRIPTION.	TOTAL GOVERNMENT AND PRIVATE.				PRIVATE.		BALANCE.
		Quantity—Tons.			Value.	Quantity.	Value.	
		Up.	Down.	Total.	Rupess.	Tons.	Rupess.	
337	1. Grain ...	2,056	...	2,056	1,03,208	2,056	1,03,208	
...	2. Cotton ...	...	...	...	...	...	...	
6	3. Oilseeds ...	4	13	17	1,680	17	1,680	
25	4. Salt ...	...	194	194	21,490	194	21,490	
2	5. Piece-goods ...	...	5	5	5,200	5	5,200	
1	6. Metal ...	...	...	...	50	...	50	
22	7. Building materials ...	24	103	127	1,050	127	1,050	
693	8. Miscellaneous ...	894	287	1,181	87,192	1,181	87,192	
7	9. Fuel ...	27	18	45	703	45	703	
18 rafts	10. Timber ...	1,694 c. ft.	2,209 c. ft.	3,903 c. ft.	3,367	3,903 c. ft.	3,367	
...	11. Bamboos ...	...	...	...	...	...	...	
1,093 & 18 rafts.	12. Total ...	{ 3,005 & 1,694 c. ft.	{ 620 & 2,209 c. ft.	{ 3,625 & 3,903 c. ft.	{ 2,23,940 {	{ 3,625 & 3,903 c. ft.	{ 2,23,940	
1,415 & 6 rafts.	13. Total of same month last year.	{ 3,730 & 973 c. ft.	{ 963 & 56 c. ft.	{ 4,693 & 1,029 c. ft.	{ 2,69,345 {	{ 4,693 & 1,029 c. ft.	{ 2,69,345	
		Up.	Down.	Total.				Rs. A. P.
14.	Total number of boats ply- ing cargo No.	596	497	1,093	Total tollage of month— 24 + 25 + 26 ...			3,175 2 0
15.	Total number of boats ply- ing passenger No.	59	59	118	Total tollage of same month last year			4,242 13 8
16.	Total registered tonnage, cargo Tons	6,159	3,351	9,510	Memorandum of Tollage.			
17.	Total registered tonnage, passenger Tons	710	541	1,251				
18.	Ton-mileage ...	107,677	68,881	176,558	Ra. A. P.			
19.	Estimated value of cargo Rs.	1,31,752	88,821	2,20,573				
20.	Number of passengers ...	2,031	1,760	3,791	1. Balance not recovered on the 1st of the month ...			
21.	Rafts, bamboos C. ft.	.....	.....	.....	1,744 15 6			
22.	Do., bullahs ..	1,394	2,209	3,903	2. Tollage per month ...			
23.	Estimated value of rafts Rs.	1,135	2,232	3,367	3,175 2 0			
24.	Tollage on boats ..	1,882-15-9	1,208-9-6	3,091-9-3	3. Total ...			
25.	Compounded tollage on boats Rs.	.....	0-5-6	0-5-6	4,920 1 6			
26.	Tollage on rafts ..	17-13-0	65-6-8	83-3-3	4. Amount paid into Treasury during the month			
27.	Total tollage on boats per ton-mile Rs.	.....	.....	0-0-3 3	3,176 12 9			
28.	Total tollage on rafts per 100 cubic feet Rs.	.....	.....	2-2-1	5. Balance due at the end of the month			
					1,743 4 5			

**SONE CIRCLE.**  
**PATNA CANAL SYSTEM.**  
**LENGTH OF CANAL OPEN, 86½ MILES.**

Number of boats or rafts.	Description.	TOTAL GOVERNMENT AND PRIVATE.				PRIVATE.		REMARKS.
		Quantity—Tons.			Value.	Quantity.	Value.	
		Up.	Down.	Total.	Rupess.	Tons.	Rupess.	
24	1. Grain ...	4	292	296	19,428	296	19,428	
...	2. Cotton ...	.....	.....	.....	.....	.....	.....	
1	3. Oilseeds ...	1	5	6	1,164	6	1,164	
...	4. Salt ...	47	.....	47	5,312	47	5,312	
31	5. Piece-goods ...	166	5	171	31,933	171	31,933	
...	6. Metal ...	4	.....	4	1,380	4	1,380	
19	7. Building materials ...	.....	142	142	1,229	130	1,179	
62	8. Miscellaneous ...	264	272	536	73,972	309	73,294	
rafts ...	9. Fuel ...	.....	7	7	25	7	25	
	10. Timber ...	.....	4	4	33	4	33	
	11. Bamboos ...	.....	7	7	185	7	185	
137	12. Total ...	486	734	1,220	1,34,661	981	1,33,933	
141	13. Total of same month last year ...	433	1,036	1,469	1,61,876	1,129	1,59,380	
		Up.	Down.	Total.			Rs. A. P.	
14.	Total number of boats plying cargo No.	60	77	137	Total tollage of month— 24 + 25 + 26 ...		1,259 5 3	
15.	Total number of boats plying passenger No.	5	8	13				
15½.	Ditto empty "	102	39	141	Total tollage of same month last year ...		1,478 11 6	
16.	Total registered tonnage, cargo Tons	839	1,000	1,839				
17.	Total registered tonnage, passenger Tons	114	148	262				
17½.	Ditto empty "	348	230	578				
18.	Ton-mileage ...	54,396	88,784	143,180				
19.	Estimated value of cargo Rs.	45,694	88,724	1,34,418				
20.	Number of passengers ...	290	375	665				
21.	Rafts, bamboos C. ft.	.....	1,095	1,095				
22.	Do., buliahs "	.....	862	862				
23.	Estimated value of rafts Rs.	.....	243	243				
24.	Tollage on boats "	446-3-0	658-0-6	1,104-3-6				
25.	Compounded tollage on boats Rs.	75-0-0	75-0-0	150-0-0				
26.	Tollage on rafts "	.....	5-1-9	5-1-9				
27.	Total tollage on boats per ton-mile Rs.	.....	.....	0-0-1-6				
28.	Total tollage on rafts per 100 cubic feet Rs.	.....	.....	0-4-2				
					Memorandum of Tollage.			
							Rs. A. P.	
					1. Balance not recovered on the 1st of the month ...		421 9 4	
					2. Tollage per month ...		1,259 5 3	
					3. Total ...		1,680 14 7	
					4. Amount credited in the accounts of the month ...		1,545 2 9	
					5. Balance due at the end of the month ...		135 11 10	



## ARRAH CANAL SYSTEM.

LENGTH OF CANAL OPEN, 65 MILES.

Number of boats or rafts.	DESCRIPTION.	TOTAL GOVERNMENT AND PRIVATE.				PRIVATE.		ESTIMATES.
		Quantity—Tons.			Value.	Quantity.	Value.	
		Up.	Down.	Total.	Rupces.	Tons.	Rupces.	
19	1. Grain ...	2	121	123	9,864	123	9,864	
1	2. Cotton ...	3	.....	3	2,980	3	2,980	
4	3. Oilseeds ...	1	67	68	7,604	68	7,604	
24	4. Salt ...	221	.....	221	26,758	221	26,758	
...	5. Piece-goods ...	21	4	25	39,100	25	39,100	
...	6. Metal ...	1	.....	1	380	1	380	
19	7. Building materials ...	1	171	172	520	143	400	
92	8. Miscellaneous ...	64	738	802	54,049	330	53,566	
3	9. Fuel ...	...	57	57	800	57	800	
...	10. Timber ...	.....	2	2	209	2	209	
Rafts	11. { Bamboos ...	.....	13	13	200	13	200	
	{ Firewood ...	.....	164	164	674	164	674	
162	12. Total ...	314	1,337	1,651	1,43,148	1,150	1,42,535	
123	13. Total of same month last year.	477	740	1,217	1,38,656	1,131	1,36,540	
		Up.	Down.	Total.			Rs. A. P.	
14.	Total number of boats plying cargo No.	37	125	162	Total tollage of month— 24 + 25 + 26 ...		1,248 14 3	
15.	Total number of boats plying passenger No.	1	4	5				
154.	Total number of empty boats No.	100	50	150	Total tollage of same month last year ...		1,185 6 3	
16.	Total registered tonnage, cargo Tons	538	2,009	2,547				
17.	Total registered tonnage, passenger Tons	69	81	150				
174.	Total registered tonnage, empty Tons	441	210	651	Memorandum of Tollage.			
18.	Ton-mileage ...	46,838	103,263	150,101			Rs. A. P.	
19.	Estimated value of cargo Rs.	79,915	62,359	1,42,274	1. Balance not recovered on the 1st of the month ...		435 10 6	
20.	Number of passengers ...	950	1,040	1,990	2. Tollage per month ...		1,248 14 3	
21.	Rafts, bamboos C.ft.	.....	2,050	2,050				
22.	Do., bullahs ..	.....	.....	.....				
224.	Do., firewood ..	.....	12,350	12,350				
23.	Estimated value of rafts Rs.	.....	874	874	3. Total ...		1,684 8 9	
24.	Tollage on boats ..	289-6-9	613-10-0	903-0-9				
25.	Compounded tollage on boats Rs.	164-0-0	164-0-0	328-0-0	4. Amount credited in the accounts of the month ...		1,387 14 0	
26.	Tollage on rafts ..	.....	17-13-6	17-13-6				
27.	Total tollage on boats per ton-mile Rs.	.....	.....	0-0-1-57				
28.	Total tollage on rafts per 100 cubic feet Rs.	.....	.....	0-1-11	5. Balance due at the end of the month ...		296 10 9	

## BUXAR CANAL SYSTEM.

LENGTH OF CANAL OPEN, 67 MILES.

Number of tons rafts.	Description.	TOTAL GOVERNMENT AND PRIVATE.				PRIVATE.		REMARKS.
		Quantity—Tons.			Value.	Quantity.	Value.	
		Up.	Down.	Total.	Rupess.	Tons.	Rupess.	
6	1. Grain ...	.....	122	122	7,994	122	7,994	
3	2. Cotton ...	.....	70	70	6,943	70	6,943	
	3. Oilseeds ...	.....	2	2	432	2	432	
	4. Salt ...	.....	1	8	10,910	8	10,910	
	5. Piece-goods ...	.....	1	1	690	1	690	
10	6. Metal ...	.....	142	142	845	.....	.....	
20	7. Building materials ...	.....	244	271	19,790	271	19,790	
	8. Miscellaneous ...	.....	48	48	345	48	345	
	9. Fuel ...	.....	.....	.....	.....	.....	.....	
	10. Timber ...	.....	.....	.....	.....	.....	.....	
	11. Bamboos ...	.....	.....	.....	.....	.....	.....	
39	12. Total ...	37	627	664	47,949	522	47,104	
57	13. Total of same month last year.	134	861	895	91,052	895	91,052	
		Up.	Down.	Total.				
	Total number of boats plying cargo No.	2	37	39				Rs. A. P.
	Total number of boats plying passenger No.	10	9	19	Total tollage of month— 24 + 25 + 26	...	424 14 0	
	Ditto empty "	24	7	31				
	Total registered tonnage, cargo Tons	40	803	843	Total tollage of same month last year	...	628 2 6	
	Total registered tonnage, passenger Tons	270	243	513				
	Ditto empty "	92	24	116				
	Ton-mileage ...	4,674	17,496	22,170				
	Estimated value of cargo Rs.	13,738	33,806	47,544				
	Number of passengers ...	749	712	1,461				
	Rafts, bamboos C. ft.	.....	.....	.....				
	Do., bullahs "	.....	3,636	3,636				
	Estimated value of rafts Rs.	.....	345	345				
	Tollage on boats "	24-10-3	208-15-9	233-10 0				
	Compounded tollage on boats Rs.	91-0-0	91-0-0	182-0-0				
	Tollage on rafts "	.....	9-4-0	9-4-0				
	Total tollage on boats per ton-mile Rs.	.....	.....	0-0-3-5				
	Total tollage on rafts per 100 cubic feet Rs.	.....	.....	0-4-0				
					1. Balance not recovered on the lat of the month	...	54 4 0	
					2. Tollage per month	...	424 14 0	
					3. Total	...	479 2 0	
					4. Amount credited in the accounts of the month	...	457 9 0	
					5. Balance due at the end of the month	...	21 9 0	

**ABSTRACT FOR THE MONTH OF OCTOBER 1889 AS COMPARED WITH THE  
CORRESPONDING MONTH OF THE PREVIOUS YEAR.**

CANAL.	TRAFFIC, 1889-90.			TRAFFIC, 1888-89.			REMARKS.					
	During the month.	To end of the month.		During the month.	To end of the month.							
<i>Orissa Circle.</i>	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.			
Taldunda Canal System ...	230	10	6	2,635	2	1	207	12	8	1,274	2	9
Kendrapara Canal System	4,455	2	8	25,716	8	4	4,368	1	6	24,768	6	5
High Level, Range I ...	568	4	7	3,967	1	3	659	2	6	3,373	13	9
Ditto, " II ...	225	1	3	1,702	1	6	192	6	6	1,464	5	3
Ditto, " III ...	76	8	9	813	8	6	71	9	3	715	11	0
Jajepore Canal ...	6	5	0	50	5	8	32	7	6	39	5	6
Total Orissa Circle ...	5,562	0	9	34,884	11	4	5,531	7	9	31,635	12	8
<i>South-Western Circle.</i>												
Midnapore Canal ..	10,558	2	9	85,923	4	3	13,019	4	6	77,084	7	9
Hidgellee Tidal Canal .	3,175	2	0	31,162	9	9	4,242	13	3	39,800	15	3
Total South-Western Circle	13,733	4	9	1,17,085	14	0	17,262	1	9	1,16,885	7	0
<i>Sone Circle.</i>												
Patna Canal System ...	1,259	5	3	15,601	9	6	1,478	11	6	16,288	15	0
Arrah ditto ...	1,248	14	3	11,267	1	8	1,185	6	3	12,174	10	6
Buxar ditto ...	424	14	0	4,097	12	5	628	2	6	5,655	2	0
Total Sone Circle ...	2,933	1	6	30,966	7	7	3,292	4	3	34,118	11	6
GRAND TOTAL .A	22,228	7	0	1,82,937	0	11	26,085	13	9	1,82,639	15	2

**GOVERNMENT TRANSPORT SERVICE.**

CANAL.	TRAFFIC, 1889-90.						TRAFFIC, 1888-89.					
	During the month.			To end of the month.			During the month.			To end of the month.		
	Passen- gers.	Goods.	Total receipts.	Passen- gers.	Goods.	Total receipts.	Passen- gers.	Goods.	Total receipts.	Passen- gers.	Goods.	Total receipts.
<i>Orissa Circle.</i>	No.	Mds.	Rs. A. P.	No.	Mds.	Rs. A. P.	No.	Mds.	Rs. A. P.	No.	Mds.	Rs. A.
High Level ...	816	290	744 3 1	3,921	4,268	4,164 13 11	703	71	716 12 3	2,461	1,269	2,728 11
Total Orissa Circle ...	816	290	744 3 1	3,921	4,268	4,164 13 11	703	71	716 12 3	2,461	1,269	2,728 11

**TOTAL NAVIGATION RECEIPTS.**

CANAL.	EARNINGS, 1889-90.						EARNINGS, 1888-89.						REMARKS.
	During the month.			To end of the month.			During the month.			To end of the month.			
	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	
Orissa Canals	6,306	3	10	39,049	9	3	6,248	4	0	34,364	8	2	
Midnapore Canal	10,558	2	9	85,923	4	3	13,019	4	6	77,081	7	9	
Hidgellee Tidal Canal	3,175	2	0	31,162	9	9	4,242	13	3	39,800	15	3	
Sone Canals	2,933	1	6	30,966	7	7	3,292	4	8	34,118	11	6	
Total	22,972	10	1	1,87,101	14	10	26,802	10	0	1,85,368	10	8	

CALCUTTA,  
The 21st January 1890.

G. A. G. SHAWK,  
Under-Secy. to the Govt. of Bengal.

## CIRCULAR AND EASTERN CANALS.

*Approximate Return of Traffic for the week ending Saturday, the 18th January 1890,  
as compared with the corresponding week of the previous year.*

NATURE OF CARGO.	WEEK ENDING SATURDAY, THE 18TH JANUARY 1890.			WEEK ENDING SATURDAY, THE 19TH JANUARY 1889.		
	Number of boats.	Weight of cargo.	Tollage.	Number of boats.	Weight of cargo.	Tollage.
	No.	Mds.	Rs.	No.	Mds.	Rs.
Rice and paddy ...	1,673	4,01,615	7,255	1,503	4,62,560	8,717
Jute ...	128	1,41,075	2,424	211	1,34,950	2,401
Firewood ...	66	40,125	600	167	75,425	1,167
Other articles ...	766	2,04,605	2,752	1,169	2,36,615	3,764
Total ...	2,693	7,57,380	13,091	3,350	9,09,550	16,039

## Nalhati State Railway.

*Statement showing Increases and Decreases in tonnage of Staples carried over the Nalhati State  
Railway during the month of November 1889, as compared with the same month of the previous year*

STAPLES.	1888.		1889.		Total.		Increase.	Decrease.
	Up.	Down.	Up.	Down.	1888.	1889.		
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.		
Coal ...	1,211	.....	1,213	.....	1,211	1,213	2	.....
Cotton raw ...	5	.....	13	.....	5	13	8	.....
Cotton piece-goods—								
1.—European ...	45	3	33	.....	45	33	.....	12
Others—								
1.—Rice ...	54	416	45	6	470	54	.....	416
2.—Gram ...	1	.....	4	.....	1	4	3	.....
3.—Others ...	5	33	10	10	35	20	.....	15
Hides and skins—								
1.—Hides of cattle—								
2.—Undressed ...	.....	2	.....	11	2	11	9	.....
Jute—								
1.—Raw ...	.....	118	23	7	118	23	.....	95
2.—Gunny bags and cloths	9	.....	7	1	9	8	.....	1
Leather, manufactured ...	8	.....	6	.....	8	6	.....	2
Liquors—								
1.—Beer ...	1	.....	.....	.....	1	.....	.....	.....
2.—Wines ...	1	.....	.....	.....	1	.....	.....	.....
Metals—								
1.—Copper, unwrought	.....	.....	13	6	.....	6	.....	13
2.—Iron ...	1	.....	1	.....	1	1	.....	.....
3.—Others ...	1	5	1	.....	6	1	.....	5
Oils—								
1.—Castor ...	.....	1	1	.....	1	1	.....	.....
2.—Kerosene ...	3	.....	6	2	3	7	4	.....
3.—Others ...	4	.....	.....	.....	4	.....	.....	.....
Oilseeds—								
1.—Linseed ...	.....	20	.....	6	20	6	.....	14
2.—Mustard and rape ...	16	.....	12	.....	16	37	21	.....
Provisions—								
1.—Ghee ...	.....	.....	4	.....	.....	4	.....	.....
2.—Dried fruits and nuts	0	3	.....	.....	0	.....	.....	3
3.—Others ...	7	.....	2	.....	7	6	.....	1
Paper and pasteboard ...	2	1	.....	.....	3	.....	.....	.....
Railway plant and rolling-stock	160	20	27	20	133	67	.....	66
Salt ...	22	.....	43	.....	22	43	21	.....
Silk, raw—								
1.—Indian ...	.....	2	6	3	2	11	9	.....
Silk piece-goods—								
1.—Indian ...	.....	7	.....	2	7	3	.....	4
2.—European ...	10	.....	6	.....	10	6	.....	4
Stones and lime ...	.....	.....	.....	.....	.....	.....	.....	.....
Sugar—								
1.—Drained ...	15	.....	3	.....	15	3	.....	12
2.—Undrained ...	1	.....	6	.....	1	6	5	.....
Tobacco ...	.....	.....	1	1	.....	1	.....	.....
Timber ...	1	.....	3	.....	1	3	2	.....
Wool—								
1.—Raw ...	.....	1	1	.....	.....	1	.....	.....
2.—Indian ...	4	.....	.....	.....	4	.....	.....	.....
All other articles of merchandise	60	20	43	31	80	73	.....	7
Total ...	1,603	637	1,623	131	2,226	1,696	530	582

	INCREASE.	Tons.
Hides and skins—		
(1) Hides of cattle—		
(b) Undressed	...	9
The increase is due to greater export.		
Metals—		
(2) Iron	...	13
Due to greater import for local consumption.		
Oilseeds—		
(2) Mustard and rape	...	21
Due to greater demand.		
Salt	...	28
Owing to sudden demand imported by rail.		
Silk, raw—		
(2) Indian	...	9
Due to greater export to Europe.		
	DECREASE.	
Cotton piece-goods—		
(1) European	...	15
This was imported by the steamer plying between Jeagunge and Calcutta.		
Grains—		
(2) Rice	...	416
This is due to less export from intermediate stations owing to less demand in North-Western Provinces this year.		
Jute—		
(1) Raw	...	95
This was despatched by boat.		
Oilseeds—		
(1) Linseed	...	12
Less exported owing to less demand.		
Railway plant and rolling-stock	...	69
Less Railway material was carried during the month.		
Sugar—		
(1) Drained	...	12
This is due to less demand, bazar being dull.		

R. G. MOOKERJEE,

Manager, Nalhati State Railway.

The 27th December 1889.

## Weekly Return of Traffic Receipts on Indian Railways.

## EAST INDIAN RAILWAY.

Approximate Return of Traffic for the first 11 days of January 1890, on 1,525½ miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated).	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. S.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the period	361,747	4,16,729 7 0	42,50,665 20	9,60,460 2 0	36,683 8 0	14,07,873 1 0	100,533½	146,312½	246,846½
Or per mile of railway.		273 2 1		632 9 3	20 1 10	922 14 2			
For previous weeks of half-year									
Total for 11 days	361,747	4,16,729 7 0	42,50,665 20	9,60,460 2 0	36,683 8 0	14,07,873 1 0	100,533½	146,312½	246,846½
COMPARISON.									
Total for corresponding first 11 days of previous year	324,967	4,61,374 12 0	40,90,798 80	10,94,156 3 7	26,816 5 0	15,82,345 5 0	111,242	179,694	290,936
Per mile of railway corresponding period of previous year		302 7 1		717 3 1	17 9 3	1,037 4 3			
Total to corresponding date of previous year	324,967	4,61,374 12 0	40,90,798 80	10,94,156 3 7	26,816 5 0	15,82,345 5 0	111,242	179,694	290,936

Approximate Statement of gross receipts of the East Indian Railway, prepared in accordance with Public Works Department Circular No. XXI, Railway, dated 23rd July 1883.

RECEIPTS FOR THE FIRST 12 DAYS OF JANUARY 1890.			RECEIPTS FOR THE FIRST 11 DAYS OF JANUARY 1890.			TOTAL RECEIPTS FROM 1ST APRIL 1889 TO 12TH JANUARY 1890.			TOTAL RECEIPTS FROM 1ST APRIL 1889 TO 11TH JANUARY 1890.			Total increase in 1890.	Total decrease in 1890.
Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Receipts.	Per mile worked.	Total receipts.	Per mile worked per week.	Mean mileage worked.	Total receipts.	Per mile worked per week.			
	Rs.	Rs.		Rs.	Rs.	Rs.	Rs.		Rs.	Rs.	Rs.	Rs.	Rs.
1,694	16,82,345	1,627	1,876	14,07,873	923	1,525½	3,61,23,071	545	1,525½	3,30,00,940	545	...	163,151



## PATNA-GYA STATE RAILWAY

Approximate Return of Traffic for the first 11 days of January 1890, on 57½ miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated).	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
Total traffic for the period or per mile of railway for previous weeks of half-year ...	21,710	Rs. A. P. 11,145 9 0 194 13 8	Mds. S. 53,625 30 937 30	Rs. A. P. 3,661 11 0 64 0 3	Rs. A. P. 72 13 0 1 3 4	Rs. A. P. 14,880 3 0 259 2 3	2,794	1,016	3,762
Total for 11 days ...	21,710	11,145 9 0	53,625 30	3,661 11 0	72 13 0	14,880 3 0	2,794	1,016	3,762
COMPARISON.									
Total for corresponding first 12 days of previous year ...	22,963	11,985 3 0	44,644 20	2,937 3 0	60 2 9	14,091 5 0	3,226	878	4,104
Per mile of railway corresponding period of previous year ...	400	269 8 8	780 20	51 8 7	1 3 4	252 1 0	...	...	...
Total to corresponding date of previous year ...	22,963	11,985 3 0	44,644 20	2,937 3 0	60 2 9	14,091 5 0	3,226	878	4,104

Approximate Statement of gross receipts of the Patna-Gya State Railway, prepared in accordance with Public Works Department Circular No. XXI, Railway, dated 23rd July 1883.

RECEIPTS FOR THE FIRST 12 DAYS OF JANUARY 1889.			RECEIPTS FOR THE FIRST 11 DAYS OF JANUARY 1890.			TOTAL RECEIPTS FROM 1ST APRIL 1888 TO 12TH JANUARY 1889.			TOTAL RECEIPTS FROM 1ST APRIL 1889 TO 11TH JANUARY 1890.			Total increase in 1889.	Total decrease in 1889.
Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Total receipts.	Per mile worked.	Mean mileage worked.	Total receipts.	Per mile worked.	Rs.	Rs.
57½	Rs. 14,092	202	57½	Rs. 14,880	169	57½	Rs. 5,83,750	164	57½	Rs. 3,07,311	169	Rs. 13,561	.....

## TARKESSUR BRANCH RAILWAY.

Approximate Return of Traffic for the first 11 days of January 1890, on 22½ miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated).	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
Total traffic for the period or per mile of railway for previous weeks of half-year ...	29,832	Rs. A. P. 7,334 11 0 329 10 4	Mds. S. 17,311 0	Rs. A. P. 722 3 0 32 7 4	Rs. A. P. 10 8 0 0 7 7	Rs. A. P. 8,067 6 0 302 9 3	1,419	89	1,518
Total for 11 days ...	29,832	7,334 11 0	17,311 0	722 3 0	10 8 0	8,067 6 0	1,419	89	1,518
COMPARISON.									
Total for corresponding first 12 days of previous year ...	31,805	7,705 7 3	15,086 20	538 15 0	11 5 0	8,255 8 3	1,538	112	1,650
Per mile of railway corresponding period of previous year ...	...	346 5 0	...	24 3 7	0 8 0	371 0 7	...	...	...
Total to corresponding date of previous year ...	31,805	7,705 7 3	15,086 20	538 15 0	11 5 0	8,255 8 3	1,538	112	1,650

Approximate Statement of gross receipts of the Tarkeessur Branch Railway, prepared in accordance with Public Works Department Circular No. XXI, Railway, dated 23rd July 1883.

RECEIPTS FOR THE FIRST 12 DAYS OF JANUARY 1889.			RECEIPTS FOR THE FIRST 11 DAYS OF JANUARY 1890.			TOTAL RECEIPTS FROM 1ST APRIL 1888 TO 12TH JANUARY 1889.			TOTAL RECEIPTS FROM 1ST APRIL 1889 TO 11TH JANUARY 1890.			Total increase in 1889.	Total decrease in 1889.
Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Total receipts.	Per mile worked.	Mean mileage worked.	Total receipts.	Per mile worked.	Rs.	Rs.
22½	Rs. 8,255	371	22½	Rs. 8,067	363	22½	Rs. 2,15,138	230	22½	Rs. 2,12,063	232	Rs. 3,075	.....

## NALHATI STATE RAILWAY.

Approximate Return of Traffic for first 11 days of January 1890, on 27½ miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated).	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
Total traffic for the first 11 days	4,533	Rs. 1,612 0 0	Mds. 29,334 0	Rs. 1,484 0 0	Rs. 31 0 0	Rs. 3,537 0 0	800	309	1,109
Or per mile of railway	162	59 0 0	1,076 0	54 0 0	1 0 0	123 0 0	.....	.....	.....
For previous weeks of half-year	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total for one week	4,533	1,612 0 0	29,334 0	1,484 0 0	31 0 0	3,537 0 0	800	309	1,109
COMPARISON.									
Total for corresponding period of previous year	5,443	1,913 0 0	34,731 0	1,500 0 0	23 0 0	3,201 0 0	873	769	1,642
Per mile of railway corresponding week of previous year	194	70 0 0	1,258 0	55 0 0	1 0 0	117 0 0	.....	.....	.....
Total to corresponding date of previous year	5,051	1,913 0 0	34,731 0	1,500 0 0	23 0 0	3,201 0 0	873	769	1,642

## FINANCIAL YEAR.

Approximate Statement of gross receipts of the Nalhati State Railway.

RECEIPTS FOR FIRST 12 DAYS OF JANUARY 1889.			RECEIPTS FOR FIRST 11 DAYS OF JANUARY 1890.			TOTAL RECEIPTS FROM 1ST APRIL 1889 TO 12TH JANUARY 1889.			TOTAL RECEIPTS FROM 1ST APRIL 1889 TO 11TH JANUARY 1890.			Total increase in 1889-90.	Total decrease in 1889-90.
Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Total receipts.	Per mile worked per week.	Mean mileage worked.	Total receipts.	Per mile worked per week.		
27½	Rs. 3,201	Rs. 117	27½	Rs. 3,537	Rs. 123	27½	Rs. 78,442	Rs. 74	27½	Rs. 77,907	Rs. 73	.....	Rs. 535

## TIRHOOT STATE RAILWAY.

Approximate Return of Traffic for first 11 days of January 1890, on 27½ miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated).	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
Total traffic for first 11 days	23,548	Rs. 29,612 0 0	Mds. 3,42,046 0	Rs. 30,246 0 0	Rs. 7,435 0 0	Rs. 76,293 0 0	8,246	13,232	21,478
Or per mile of railway	857	106 0 0	1,243 0	111 0 0	27 0 0	274 0 0	.....	.....	.....
For previous weeks of half-year	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total for one week	23,548	29,612 0 0	3,42,046 0	30,246 0 0	7,435 0 0	76,293 0 0	8,246	13,232	21,478
COMPARISON.									
Total for corresponding period of previous year	23,107	28,470 0 0	3,38,770 0	30,116 0 0	4,554 0 0	67,146 0 0	9,215	9,000	18,215
Per mile of railway corresponding week of previous year	837	102 0 0	1,228 0	110 0 0	16 0 0	244 0 0	.....	.....	.....
Total to corresponding date of previous year	23,107	28,470 0 0	3,38,770 0	30,116 0 0	4,554 0 0	67,146 0 0	9,215	9,000	18,215

\* Steam-boat earnings excluded in calculating "Total earnings per mile of Railway."

## FINANCIAL YEAR.

Approximate Statement of gross receipts of the Tirhoot State Railway.

RECEIPTS FOR FIRST 12 DAYS OF JANUARY 1889.			RECEIPTS FOR FIRST 11 DAYS OF JANUARY 1890.			TOTAL RECEIPTS FROM 1ST APRIL 1889 TO 12TH JANUARY 1889.			TOTAL RECEIPTS FROM 1ST APRIL 1889 TO 11TH JANUARY 1890.			Total increase in 1889-90.	Total decrease in 1889-90.
Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Total receipts.	Per mile worked per week.	Mean mileage worked.	Total receipts.	Per mile worked per week.		
27½	Rs. 67,146	Rs. 173	27½	Rs. 76,293	Rs. 276	27½	Rs. 265,007	Rs. 120	27½	Rs. 260,817	Rs. 146	Rs. 5,190	.....

## DARJEELING-HIMALAYAN RAILWAY COMPANY, LIMITED.

	Rs.
Approximate earnings for week ending 31st December 1889	7,007
Corresponding week last year	10,835
Decrease	3,828
Receipts from 1st July to 31st December 1889	2,76,214
From 1st July to 22nd December 1888	2,96,767
Decrease	20,553
Compared with 1887, there is an increase of Rs. 28,649 for the corresponding period.	
Miles open week ending 31st December 1889	51
Corresponding week last year	51
Receipts per mile open week ending 31st December 1889	Rs. 53 11 3
Corresponding week last year	51 7 4
Decrease	2 4 1



# SUPPLEMENT TO The Calcutta Gazette.

WEDNESDAY, JANUARY 29, 1890.

## OFFICIAL PAPERS.

*Non-Subscribers to the GAZETTE may receive the SUPPLEMENT separately on payment of Six Rupees per annum if delivered in Calcutta, or Twelve Rupees if sent by Post.*

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*Abstract of the Proceedings of the Council of the Lieutenant-Governor of Bengal, assembled for the purpose of making Laws and Regulations under the provisions of the Act of Parliament 24 and 25 Vic., Cap. 67.*

The Council met at the Council Chamber on Saturday, the 18th January, 1890.

### Present:

The HON'BLE SIR STEUART COLVIN BAYLEY, K.C.S.I., C.I.E., Lieutenant-Governor of Bengal, *presiding*.

The HON'BLE SIR CHARLES PAUL, K.C.I.E., *Advocate-General*.

The HON'BLE F. B. PEACOCK.

The HON'BLE P. NOLAN.

The HON'BLE T. T. ALLEN.

The HON'BLE SIR HENRY HARRISON, K.T.

The HON'BLE SIR ALFRED CROFT, K.C.I.E.

The HON'BLE DR. MAHENDRA LAL SIRCAR, C.I.E.

The HON'BLE C. H. MOORE.

The HON'BLE H. PRATT.

The HON'BLE SHAHZADA MAHOMMED FURROKH SHAH.

The HON'BLE DR. RASH BEHARY GHOSE.

The HON'BLE RAJA RAMESHWAR SING BAHADUR.

## RULES FOR THE CONDUCT OF BUSINESS.

THE HON'BLE SIR CHARLES PAUL moved that the Report of the Select Committee appointed to consider and amend the Rules for the Conduct of Business at the Meetings of the Council be taken into consideration.

The Motion was put and agreed to.

The HON'BLE SIR CHARLES PAUL also moved that the Rules be considered for settlement in the form recommended by the Select Committee.

The Motion was put and agreed to.

HIS HONOUR THE PRESIDENT said:—"Before putting the next question to the vote, I wish to say a few words. I am sure we are much indebted to the Select Committee for the care they have taken in considering these rules for the conduct of business.

"In going through the details there is only one point which struck me, on which I thought an alteration might possibly be made; and about that, as I am not quite sure I have understood the Rules correctly, I should like to have the opinion of the learned Advocate-General, or any other legal Member of the Council. It is a point which concerns me as President.

"In Rule 25 it is stated that 'when an amendment upon any motion is moved, or when two or more such amendments are moved, the President, when taking the sense of the Council thereon, shall read the terms of the original motion and of the amendment or amendments proposed.' So far it is all right, and I have no objection to it.

"Then the Rule goes on to say, 'and before putting any other question, shall put the question that the original motion shall stand without amendment.' After that it says:—'If that question is decided in the affirmative, the motion shall be put to the vote without amendment;' and in Rule 26 it says: 'When any one amendment is affirmed, the question shall be put to the vote and amended accordingly.'

"Now, if I have read this rule correctly, it imposes upon the President the necessity of first taking the opinion of the Council not on any one of the amendments, but upon the motion as it originally stood; that is to say, on a section of a Bill probably as amended by a Select Committee. In nine cases out of ten it would be that.

"If there is a question which strongly divides public opinion, we shall find, as a matter of practice, that a Select Committee generally takes a view which is a mean between two extremes. Let us say as an illustration, though it is not likely to happen, that a Select Committee recommends that a certain appointment shall carry a salary of Rs. 500 a month. That would probably be the mean between two extremes—one extreme being that the appointment shall not be a paid appointment at all, and another extreme that the appointment shall be paid Rs. 1,000 per mensem. If I have understood this rule correctly, I shall first have to put the motion to the Council that the pay of the appointment shall be Rs. 500. The effect of that, of course, would be to combine against that motion the advocates of the two extremes that the appointment shall not be paid, and that it shall be paid Rs. 1,000. Clearly the middle term would be thrown out. Whereas we know well from our own experience that when either of the extreme parties find that they cannot have their own way, they would much rather adopt the middle term than that the opposite extreme party shall have their way.

"If, on the other hand, it is at the discretion of the President to put any one of the amendments or the original term first as he chooses, it will then give an opportunity of taking the opinion of the Council as to the views of the two extreme parties without forcing them to combine against the middle term. But if you begin by voting upon the middle term, and then go to the extremes, if the two combine first against the one, and then against the other, you will be left in a dilemma, out of which you cannot possibly extricate yourself, and there will be no means of getting the views of the two opposite parties upon the recommendation of the Select Committee.

"The proposal I shall make to you will be that in Rule 25 after the first word 'proposed,' the next ten lines be left out down to the words 'amended



accordingly'; and that the following words be substituted for them, namely:—  
'It shall be in the discretion of the President to put first to the vote either the original motion or any of the amendments which may have been put forward.'

"I should like to have the opinion of gentlemen who are more accustomed than I am to the way of doing business at public meetings, and as to the legal effect of the words which I have proposed, before I ask you to accept them. I only throw this proposal out for discussion, and not as one which I ask you to accept on my authority."

THE HON'BLE SIR ALFRED CROFT said:—"This proposal seems to me likely to get rid of a difficulty which is presented by the amended Rules as proposed by the Select Committee. These Rules (25 and 26) are a reproduction, without any change, of the existing rules. But they present certain inconsistencies which arise, as it seems to me, from the use of the word 'amendment' in two senses. It is well known that in Parliamentary usage the word 'amendment' means one thing, while in the popular sense it means quite another. According to the usage of Parliament the word 'amendment' means a proposal to alter the terms of a question by adding certain words, by omitting certain words, or by substituting certain words for certain other words. And then in voting on that amendment, you are in fact not voting on any substantive question, but only upon the form that you wish that question to take on which you are afterwards to vote as soon as its terms are settled. Dr. Smith in his 'Handy Book on Public Meetings' describes the practice of Parliament as follows:—

'The object of an amendment is to change more or less the nature of the question before the House. . . . Thus, in voting upon any amendment, whichever way a man votes he does not help to carry any question, but only decides what the question shall be which he shall have an opportunity of carrying. He does not support the original question by voting against its being amended;'

to which it may be added that, in voting for an amendment, he may do so with the object of afterwards voting against the question as so amended.

"Such then is the Parliamentary usage. The popular meaning of the word 'amendment' as it is used in India, and often at public meetings in England, is different. A proposal is put before the meeting, and against that is brought forward a counter or rival proposal, which is called an amendment. Both are discussed together, and then at the close of the debate the Chairman puts one of the two propositions (generally the amendment) to the vote of the meeting. If it is carried, the substantive question is carried; if it is lost, the original proposition is put to the vote with a similar object and result. The two meanings of the term 'amendment' are perfectly clear and distinct, but the word seems to be used in these rules sometimes in one sense and sometimes in another.

"In Rule 23, which provides that 'any member may, by motion, propose for the determination of the Council any original question or any amendment of such question,' it is probable, though the point is not quite clear, that the intention is to employ the term 'amendment' in the Parliamentary sense, namely, an alteration of the terms of the question.

"Now go on to Rule 25 which says:—'When an amendment upon any motion is moved, or when two or more such amendments are moved, the President, when taking the sense of the Council thereon, shall read the terms of the original motion and of the amendment or amendments proposed, and before putting any other question shall put the question that the original motion do stand without amendment.' That clearly points to the Parliamentary usage. The President first puts the question, that the original motion do stand without amendment; in other words, he asks the Council to decide the form which the question shall take. Then the rule goes on to say:—'If that question is decided in the affirmative, the motion shall be put to the vote without amendment;' that is to say, when it has been decided that the form of the question shall not be altered, the motion is to be put to the vote in the form in which it originally stood, and at this second stage it is put of course as a substantive motion.

"If, on the other hand, the rule goes on to say, the question that the original motion do stand without amendment is decided in the negative, that is, if it is decided that the question shall be amended, you would naturally expect that the next point to be settled would be the form the question should take. But that is not so, we find; for at this point the rule changes over to the popular method of procedure. It says:—'If not (that is, if there is to be an alteration in the terms of the question) the motion shall be put to the vote as proposed to be amended;' that is to say, the motion is at once to be put to the vote in its alternative form, and the voting on it will decide the substantive question.

"But now go on to Rule 26 which says:—'When any one amendment is affirmed, the question shall be put to the vote and amended accordingly.' On neither interpretation of the word 'amendment' can I attach any sort of meaning to that clause. The question has already been amended, because the amended question has been before the meeting. More than that, the question has been put to the vote and disposed of, so that there is nothing more to be done; and consequently Rule 26 seems to me to have no meaning whatever as it stands. If, indeed, the rule means, as is probably the case, 'when any one amendment is affirmed, the question shall be amended accordingly and put to the vote,' this would no doubt be in accordance with Parliamentary practice, but it would be in direct contradiction with what has preceded in Rule 25, according to which the question has already been put to the vote and disposed of.

"The rules as they stand are consequently open to serious objection. It would, perhaps, not be difficult so to alter them as to bring them into consistency both with Parliamentary usage and with one another. But I am not sure that it is necessary to adopt the Parliamentary usage here; and on the whole it seems to me that the difficulty can be removed quite as effectually by the proposal which His Honour the President has made, and which is in conformity with popular practice."

THE HON'BLE SIR HENRY HARRISON said:—"The Hon'ble Sir Alfred Croft has given an excellent dissertation on the academical or theoretical side of the question before the Council, and I am glad to say that my experience of the practical side of the question bears out the wisdom of adopting the amendment proposed by His Honour the President.

"I have had considerable experience for some time of the practical way of dealing with a large number of simultaneous amendments; and I may say that the difficulty is partially insoluble, because sometimes you have amendments of such a kind that you cannot get the real view of the meeting upon them, as each party will vote for their own particular proposal. But the best solution lies in the amendment now proposed, because it is necessary when there are many amendments to select and to put them in such order that the views of the meeting may be clearly obtained; and it seems best that the power to do so should rest with the President of the assembly.

"For example, in the Municipality we had a certain rule for electing candidates to office. Each candidate whose name was proposed was put up and voted for; then the next and the next, till some one candidate got an absolute majority of votes. The result was that the candidate whose name was put up first had no chance, because the supporters of all the other candidates combined against him, and so on, each successive candidate having a better chance as he would get some support from the friends of the candidates already rejected. And therefore the candidates made careful calculations as to the order in which their applications should be sent in and appear in the lists, as upon that depended their chance of obtaining a number of votes from amongst the supporters of those whose names were put forward before. Similar manœuvring may be practised as regards amendments if they have to be put according to any hard-and-fast rule.

"Much the best remedy therefore is that which leaves it entirely to the President to decide which shall be put first, whether the first, second, or third amendment, or the original motion, in order to get at the sense of the meeting."

[His Honour the President asked Sir Charles Paul, as the oldest Member of the Council, whether in his experience Rules 25 and 26 have ever once been worked?]

THE HON'BLE SIR CHARLES PAUL said:—"I do not know about these Rules having been used in practice. The Select Committee adopted the existing rules with such modifications as presented themselves for consideration. They did not turn their attention to these Rules from the point of view which His Honour the President has put before the Council, and it appears to me that the proposal framed to amend these Rules is a perfectly correct proposal, namely, to give the President the right to put amendments to the Council in any order he thinks proper.

"There are cases in which it is necessary to put the amendment first, and that could not be done under the existing rule, but I may add that in point of practice the rule does not seem to be generally followed; and under these circumstances I have no objection to these Rules being amended as proposed, and it seems to me most expedient to do so."

His Honour the President then moved that, the words 'It shall be in the discretion of the President to put first to the vote either the original motion or any of the amendments which may have been brought forward' be substituted for the following in Rules 25 and 26:—

'And before putting any other question shall put the question that the original motion do stand without amendment.

'If that question is decided in the affirmative, the motion shall be put to the vote without amendment. If not, and there be but one amendment proposed, the motion shall be put to the vote as proposed to be amended; or if there be more than one amendment proposed, the question shall be put that the motion be put to the vote as proposed by the amendment which the President thinks may most conveniently be first disposed of, and so, if necessary, of all the others.

'When any one amendment is affirmed, the question shall be put to the vote and amended accordingly.'

The Motion was put and agreed to.

The HON'BLE SIR ALFRED CROFT moved that in Rule 13, the words 'No Member in debate shall name another Member' be omitted.

He said:—"I do not know whether it is desirable to retain these words as the rule has never been observed in practice."

The HON'BLE MR. NOLAN said:—"I submit that it will be better to alter the practice; naming a Member in a certain stage of a discussion may be objectionable."

The HON'BLE SIR HENRY HARRISON said:—"In a rowdy assembly there would be objections to naming a Member, and in such a case it would be better to preserve the rule. But if you have a well-ordered assembly, it is better to have no such rule. It all depends upon the character of the assembly. I do not think any actual inconvenience will result from naming members in this Council."

The amendment being put, the Council divided:—

*Ayes.*

The Hon'ble Raja Rameshwar Sing Bahadur.  
The Hon'ble Dr. Rash Behary Ghose.  
The Hon'ble Shahzada Mahommed Furrokh Shah.  
The Hon'ble C. H. Moore.  
The Hon'ble Dr. Mahendra Lal Sircar.  
The Hon'ble Sir Alfred Croft.  
The Hon'ble Sir Henry Harrison.  
The Hon'ble F. B. Peacock.  
The Hon'ble Sir Charles Paul.

*Noes.*

The Hon'ble H. Pratt.  
The Hon'ble T. T. Allen.  
The Hon'ble P. Nolan.

So the Motion was carried.

The HON'BLE SIR CHARLES PAUL moved that the Rules, as now settled in Council, be passed.

The Motion was put and agreed to.

### CALCUTTA AND THE SUBURBAN POLICE SUPERANNUATION FUNDS BILL.

THE HON'BLE SIR HENRY HARRISON moved that the Bill to consolidate the Calcutta and the Suburban Police Superannuation Funds, as settled in Council, be passed.

He said :— " The Bill was discussed and passed at the last meeting of the Council with a small amendment of a formal character proposed by myself, and I see no possible objection to its being passed now."

The Motion was put and agreed to.

### CALCUTTA PORT BILL.

HIS HONOUR THE PRESIDENT said :— " The next question on the notice paper is the discussion upon the motion that, the Report of the Select Committee on the Bill to consolidate and amend the law relating to the Port of Calcutta, and to the appointment of Commissioners for the said Port, be taken into consideration.

" But I might mention that in considering the dissents of the two Hon'ble Members who have affixed separate memoranda to the Report of the Select Committee, I got the very valuable assistance of the learned Advocate-General, and we had an informal meeting last week with the Members of the former Select Committee, who were by that time *functi officio*. The result was that a fresh clause was drafted to meet, as far as possible, the objections taken to the original one. It is the clause which you see in the notice paper in the name of the Hon'ble Sir Henry Harrison.

" But in the course of this week the Hon'ble Mr. Moore applied to me, requesting that the discussion of the matter might be postponed, as the Chamber of Commerce wished to consider the section in its latest form and to take legal opinion upon it. I am quite sure you will all agree with me that it is better to give ample time for consideration rather than to have a debate in this Council which can be avoided, and certainly rather than to have it said that we are hurrying the measure through the Council unnecessarily.

" I therefore took it upon myself to tell the Hon'ble Member that there will be no discussion to-day, and that the consideration of the measure will be postponed to the next meeting of the Council."

The consideration of the Report was, therefore, further postponed.

### BENGAL VACCINATION BILL.

THE HON'BLE SIR HENRY HARRISON presented the Report of the Select Committee on the Bill to amend the Bengal Vaccination Act, 1880, and Bengal Act II, 1887.

He said :— " As a matter of fact, although this Bill is mainly a formal one, the Select Committee have made considerable changes in it. Our colleague, the Hon'ble Mr. Nolan, whom I am now permitted to name without any breach of rules, pointed out the effect of the various provisions of the Act, and has recorded a note on the subject; and the result of our consideration has been that we found first that the formal object of the Bill would be better attained not by substituting ' Calcutta ' for the ' Town of Calcutta,' but by simply altering the definition of the ' Town of Calcutta,' and omitting the definition of ' the Suburbs;' and then we found no necessity for touching the amended Act at all. Because though the amending Act does refer to the Suburbs, it refers to it in a sense which requires no actual definition; it merely applies to sailors coming to the Suburbs or the Town of Howrah.

" The effect of removing the definition of the ' Suburbs of Calcutta ' would not raise any difficulty in the two places in which the words are found. The words would merely remain as meaning (precincts), thus giving that protection to the precincts of Calcutta which ought to be given."

The Council adjourned to Saturday, the 1st February, 1890.

CALCUTTA;

C. H. REILY,

The 24th January, 1890.

Assistant Secretary to the Govt. of Bengal,

Legislative Dept.



**FAMINE RELIEF BY DISTRICT AND LOCAL BOARDS.**

**REVENUE DEPARTMENT—FAMINE.**

*Calcutta, the 24th January, 1890.*

**RESOLUTION.**

UNDER section 99 of the Local Self-Government Act III (B.C.) of 1885 District Boards are empowered to incur expenditure on measures for the relief of famine within such financial limits as may be prescribed by the Commissioner of the Division concerned, and the Bengal Famine Code provides that in districts to which this section of the Act has been extended, relief operations should be governed by rules to be issued under section 138. Section 99 has been already extended to Furreedpore and the districts of the Patna Division, and a notification will now issue rendering its provisions applicable to the remaining District Boards of the Province.

2. For the guidance of District Boards in the discharge of the duty of affording relief in time of distress, the Lieutenant-Governor desires to emphasise the principle which has already been enunciated in the course of the correspondence relating to the recent scarcity in Behar, and which has gained the approval of the Government of India as being in accord with the views expressed in paragraph 21 of the Resolution of that Government, No. 44Fam., dated the 9th June, 1883, on the issue of the Provisional Famine Code. That principle is that the duty of providing relief in the way of work should fall in a gradual scale with the deepening of distress, first on Local, secondly on Provincial, and lastly on Imperial Funds. District Boards must be regarded as forming an integral part of the administration, and it becomes their duty, as it is that of other departments of Government in time of serious scarcity, to subordinate the ordinary objects and methods of their expenditure to the special consideration of saving life. District Boards are the primary agency available for coping with famine, and must be expected in such crises to direct their whole resources, subject only to the maintenance of absolutely necessary works in non-affected tracts, to affording relief. This primary obligation having been carried out, it remains for Government to supplement the resources of Boards, if necessary, so as to enable them not only to combat famine, but also to perform their ordinary functions connected with the up-keep of district communications. Before, then, an appeal is made by the Boards to Government for funds, all possible expenditure, beyond that absolutely necessary for bare maintenance and establishment charges, should be diverted from non-affected to affected areas, and on the opening of relief operations, the District budgets should be remodelled with this object.

3. In order to make the action of Boards conform with the provisions of the Famine Code, the annexed rules are, under section 138 of the Local Self-Government Act, issued for their guidance.

1. In the administration of the relief of scarcity or famine, District Boards should follow the principles of the Bengal Famine Code so far as such principles apply to them. Their attention is specially required to the following rules, which should be carefully observed.

2. On relief works opened and maintained by District Boards, the wages paid to labourers should be fixed with reference to the following provisions of the Bengal Famine Code:—

" 124. The full ration prescribed under this Code as sufficient to maintain able-bodied labourers in health and strength is—

	For a man.	For a woman.	For children.
	lb. oz.	lb. oz.	
Flour of the common grain used in the country, or cleaned rice	1 8	1 4	½, ⅓ and ¼ rations according to age and requirements.
Pulse	0 4	0 4	
Salt	0 ½	0 ½	
Ghee or oil	0 1	0 ½	
Condiments and vegetables	0 1	0 1	



"125. The minimum ration for labourers under this Code is—

	For a man.		For a woman.		For children, not being infants, below 14.
	lb.	oz.	lb.	oz.	
* Flour of the common grain used in the country, or cleaned rice ...	1	0	0	14	$\frac{1}{2}$ , $\frac{1}{4}$ and $\frac{1}{8}$ rations according to age and requirements.
Pulse ...	0	2	0	2	
Salt ...	0	$\frac{1}{2}$	0	$\frac{1}{2}$	
Ghee or oil ...	0	$\frac{1}{2}$	0	$\frac{1}{2}$	
Condiments and vegetables ...	0	$\frac{1}{2}$	0	$\frac{1}{2}$	

"126. The penal ration prescribed for labourers sent to a poor-house for refusing to work is—

	For a man.		For a woman.	
	lb.	oz.	lb.	oz.
Flour, grain or rice ...	0	14	0	12
Pulse ...	0	1	0	1
Salt ...	0	$\frac{1}{2}$	0	$\frac{1}{2}$

"127. The minimum wage under this Code is the amount of money which at the current rates authorised by the District Officer is sufficient to purchase a minimum ration.

"128. The full wage under this Code is the amount of money which at the current prices is sufficient to purchase a full ration.

"129. Payment for labour on Professional Agency works may be made at the rates ordinarily given under the rules in force in the Public Works Department, provided that the sum which a labourer can ordinarily be expected to earn by a fair day's labour shall in no case be less than the full wage prescribed in section 128.

"130. Payment for labour on Civil Agency works, where payment is made by results, shall be so arranged that the sum which able-bodied labourers can ordinarily be expected to earn shall be as nearly as possible equal to the full wage prescribed by section 128.

"131. Payment for labour on Civil Agency works, where made according to task, shall be arranged at the discretion of the civil officer in charge:

"Provided that in no case it be greater than 75 per cent. of the full wage, nor less than the minimum wage prescribed in this chapter."

3. Every District Board maintaining a relief work shall make a progress return to the District Officer for each week ending on Saturday night in the annexed form.

4. In making the above return, the District Board shall also note—

- the physical condition of the labourers, and of those seeking relief;
- the numbers who have been rejected from the work, and the reasons for rejection;
- the causes of any refusal to work or failure to accomplish the full task, and the action taken;
- the sufficiency or insufficiency of the scale of wages of payment for piece-work;
- any other information which it is expedient to communicate.

5. When a District Board opens and maintains temporary poor-houses and places for the distribution of food, gratuitous relief shall be limited to the following classes of persons, and shall be given to them only when they have no relatives able and, by the custom of the country, bound to support them:—

- Idiots and lunatics.
- Cripples.
- Blind persons.
- All who from age or physical weakness are incapable of earning their living.
- All persons whose attendance on the sick, or on infant children in their own homes, is absolutely necessary.

6. No person may be admitted to a poor-house except—

- persons who, being unfit for employment on works, cannot be conveniently sent to their homes;
- persons who, being fit for employment on works, refuse to labour.

7. The site of the poor-house should be chosen with regard to the following circumstances:—

- It should be within easy reach of the head-quarters of the District Board, or of some official delegated to act as visitor.
- It should be situated on the outskirts of a village or town.
- The situation should be healthy.
- The drainage should be good.
- An ample supply of water for drinking and bathing purposes should be available.

\* The flour should be that of the coarsest cereal or millet ordinarily consumed and commonly purchasable in the bazaar, where rice is made the standard of age it should be cleaned rice. The price should be that at which the flour or rice is sold at the bazaar attached to or nearest to the relief work: If flour is not sold, the price should be based on that at which the grain is sold. In calculating the price of flour, it should be remembered that flour is always dearer than the grain of which it is composed. This seems a simple method for instruction, but it had recently been forgotten, and wages have been based on the price of the grain, not of the flour. Thus, if barley is selling at one anna a pound, a pound of barley should be priced about 1½ anna (Mr. Elliot's Draft Code of Famine Relief, Chapter II, paragraph 12).

8. Arrangements shall be made to ensure that relief is not unnecessarily given, and that, when given, it reaches the persons for whom it is intended.

9. So far as may be, consideration shall be shown to persons of respectable position and family who are reduced to starvation. Such persons shall not be forced to labour on the works, but shall, wherever possible, be employed as overseers of gangs, supervisors, accountants or clerks on the works. If no suitable work can be found for them, they may be admitted to gratuitous relief. A list of all such persons so admitted shall be sent weekly to the District Officer.

10. In cases where District Boards undertake the whole system of charitable relief, the following further rules will apply :—

- (i) Artizans who require relief shall be employed, as far as possible, in their own trades and in localities where the members of any particular trade or calling are numerous. Preference may be given to works which will provide employment for men of such trade or calling.
- (ii) In localities where weavers are numerous, the District Board may arrange for the distribution of thread, and the payment for cloth woven, at the market price.
- (iii) If the market price is so low that a weaver cannot support himself, the price given may be raised, with the sanction of the Commissioner, to such an extent as may be necessary.

11. In order that the expenditure on account of the relief of scarcity or famine may be clearly shown in the budget estimates, the major head "Famine relief" is to be divided into the following minor heads :—

- (i) Relief works.
- (ii) Temporary hospitals, poor-houses, orphanages.
- (iii) Gratuitous relief.
- (iv) Extra medical or other assistance.

Form No. II, referred to in Rule 11 of the rules under section 138, clauses (v) and (r) of the Local Self-Government Act, published under notification dated 16th September 1886, in the Municipal Department, is to be corrected accordingly.

ORDER.—Ordered that a copy of this Resolution be forwarded to all Commissioners and District Officers, and, through the latter, to all District Boards, for information and guidance.

By order of the Lieutenant-Governor of Bengal,

P. NOLAN,

Secretary to the Government of Bengal.

### FORM OF PROGRESS RETURN.

See Rule 3.

#### FAMINE RELIEF WORKS.

DISTRICT OF \_\_\_\_\_

Progress Return for the week ending on night of Saturday, the \_\_\_\_\_.

Description of work.	Date of the week.	NUMBER OF PERSONS EMPLOYED.									Quantity or portion of work done during the week.	TOTAL AMOUNT DISBURSED AS WAGES.									Total number of infirm persons unfit to work and dependent on labourers employed on the work during the week.	Total amount of wages paid to such persons during the week.	How long the work is likely to give employment.	REMARKS.	
		Class A.			Class B.			Class C.				Class A.			Class B.			Class C.							
		Men.	Women.	Children.	Men.	Women.	Children.	Men.	Women.	Children.		Men.	Women.	Children.	Men.	Women.	Children.								
	Sunday										The following progress has been made.														This work will give employment to labourers for _____ days.
	Monday																								
	Tuesday																								
	Wednesday																								
	Thursday																								
	Friday																								
	Saturday																								
	Total																								

NOTE.—"Class A" stands for able-bodied persons accustomed to labour.  
 "Class B" stands for able-bodied persons not so accustomed.  
 "Class C" stands for persons not able-bodied, but fit for light employment of the kind required at the work.

LIBERALITY OF RAJAH RUN BAHADUR SINGH, OF TIKARI.

Dated Calcutta, the 28th January 1890.

From—SIR JOHN EDGAR, K.C.I.E., C.S.I., Chief Secretary to the Government of Bengal,

To—The Commissioner of Patna.

I AM directed to acknowledge the receipt of your letter No 21G, dated the 9th instant, in which you report that Rajah Run Bahadur Singh, of Tikari, has contributed a sum of Rs. 25,000 to form the nucleus of a trust fund for the purpose of establishing a lady doctor in Gya.

2. In reply, I am to request that you will be so good as to convey to Rajah Run Bahadur Singh an expression of the Lieutenant-Governor's appreciation of his public spirit and liberality. The correspondence will be published in the *Calcutta Gazette*.

No. 21G, dated Bankipore, the 9th January 1890.

From—JOHN BOXWELL, Esq., Offg. Commissioner of the Patna Division,

To—The Secretary to the Government of Bengal, Medical and Municipal Depts.

I HAVE the honour to report, for the information of Government, that Babu (now Rajah), Run Bahadur Singh, of Tikari, has contributed a sum of Rs. 25,000 to form the nucleus of a trust fund for the purpose of establishing a lady doctor in Gya.

2. Other subscriptions have raised the total to over Rs. 28,000. Under the Magistrate's care the fund is likely to grow rapidly.

3. The Magistrate has requested me to bring specially to the notice of Government this most generous action of Rajah Run Bahadur Singh.

## Rainfall, Weather, and State and Prospects of the Crops.

Statement showing Rainfall, Weather, and State and Prospects of the Crops in the different districts of Bengal, as reported to Government, during the week ending the 25th January, 1890.

No.	District and date of return.	Rainfall at Sudder Station in inches.	Character of the weather and state and prospects of the crops.																
<b>BENGAL.</b>																			
<i>Western Districts.</i>																			
1	Burdwan Jan. 25, '90 Raneegunge ...	0.13 0.06	Weather—cloudy and rather warm. Prospects of <i>rabbi</i> not very favourable. Sugarcane good. Prices of common rice:— <div style="display: flex; justify-content: space-between; align-items: center;"> <table> <tr><td>Burdwan</td><td>...</td><td>...</td><td>Srs. 17½</td></tr> <tr><td>Culna</td><td>...</td><td>...</td><td>16</td></tr> <tr><td>Cutwa</td><td>...</td><td>...</td><td>16½</td></tr> <tr><td>Raneegunge</td><td>...</td><td>...</td><td>20</td></tr> </table> <div style="margin-left: 10px;">} per rupee.</div> </div>	Burdwan	...	...	Srs. 17½	Culna	...	...	16	Cutwa	...	...	16½	Raneegunge	...	...	20
Burdwan	...	...	Srs. 17½																
Culna	...	...	16																
Cutwa	...	...	16½																
Raneegunge	...	...	20																
2	Bankura .. 25, '90	0.07	Weather—seasonable. <i>Rabbi</i> crops doing well. Sugarcane is being cut with good outturn. Common rice 21 seers per rupee at Sudder and 18 seers at Balespore.																
3	Nirbhum .. 25, '90		A few drops of rain fell on the 19th, and there was a thunderstorm not far off. <i>Amra</i> crop has been reaped; outturn about 16 annas. Prospects of winter crops good. Price of rice 16 seers per rupee at Soory and 16½ seers at Rampur Hat.																
4	Midnapur .. 25, '90	Nil	Weather—seasonable. Rice harvest in the Sudder subdivision completed with 13 annas outturn, but still going on in Contai and Tamluk. Prices of rice:— <div style="display: flex; justify-content: space-between; align-items: center;"> <table> <tr><td>Sudder</td><td>...</td><td>...</td><td>Srs. 16</td></tr> <tr><td>Contai</td><td>...</td><td>...</td><td>24 (new)</td></tr> <tr><td>Tamluk</td><td>...</td><td>...</td><td>16</td></tr> <tr><td>Ghat</td><td>...</td><td>...</td><td>18</td></tr> </table> <div style="margin-left: 10px;">} per rupee.</div> </div>	Sudder	...	...	Srs. 16	Contai	...	...	24 (new)	Tamluk	...	...	16	Ghat	...	...	18
Sudder	...	...	Srs. 16																
Contai	...	...	24 (new)																
Tamluk	...	...	16																
Ghat	...	...	18																
5	Hooghly .. 25, '90	Nil	Hot weather making appearance. <i>Rabbi</i> crops thriving well and promising a good outturn. Potatoes specially good. Prices of common rice:— <div style="display: flex; justify-content: space-between; align-items: center;"> <table> <tr><td>Sudder and Serampore</td><td>...</td><td>...</td><td>Srs. 12½</td></tr> <tr><td>Johannabad</td><td>...</td><td>...</td><td>17½</td></tr> </table> <div style="margin-left: 10px;">} per rupee.</div> </div>	Sudder and Serampore	...	...	Srs. 12½	Johannabad	...	...	17½								
Sudder and Serampore	...	...	Srs. 12½																
Johannabad	...	...	17½																
	Howrah .. 25, '90	0.52	Weather—cool. Prospects of crops good. Rain on 25th instant has done good. Harvesting of <i>amra</i> crop finished. Prices of common rice:— <div style="display: flex; justify-content: space-between; align-items: center;"> <table> <tr><td>Howrah</td><td>...</td><td>...</td><td>Srs. 12½</td></tr> <tr><td>Uluberia</td><td>...</td><td>...</td><td>15½</td></tr> </table> <div style="margin-left: 10px;">} per rupee.</div> </div>	Howrah	...	...	Srs. 12½	Uluberia	...	...	15½								
Howrah	...	...	Srs. 12½																
Uluberia	...	...	15½																
<i>Central Districts.</i>																			
6	24-Pargha Jan. 25, '90	1.07	Weather seasonable, but cloudy. Harvesting of <i>amra</i> crop progressing quickly. Winter crops doing well. Price of rice varies from 15 to 17 seers a rupee.																
7	Nadua .. 25, '90	Nil	Weather—seasonable. <i>Khat</i> , <i>mung</i> , and mustard are being harvested. Other winter crops doing well.																
	Koachra ...	0.15																	
	Mehorpur ...	0.10																	
	Choudanga ...	0.06																	
8	Khosla .. 25, '90	1.04	Weather—seasonable. <i>Amra</i> harvest still progressing; outturn good. Winter crops doing well. The rain of the week will do good to the <i>rabbi</i> crops.																
	Bagirhat ...	0.5																	
9	Jessore .. 25, '90	1.55	Rain on the 24th. Harvesting of <i>amra</i> rice nearly completed except on low lands. Cold-weather crops doing fairly well. Prices of rice stationary.																
	Jehanabad ...	0.19																	
	Mugua ...	0.25																	
	Narail ...	0.08																	
10	Mooredabad .. 25, '90	0.13	Weather—clear and cold. <i>Amra</i> harvesting almost completed. <i>Rabbi</i> promises well.																
11	Minagapur .. 25, '90	Nil	Weather—very cloudy yesterday (24th), and this (25th) morning very foggy. Rice harvest almost over, and prospects favourable. Mustard crop in the subdivision expected to be very poor. Pressing of sugarcane continues.																
12	Rajahmbye .. 25, '90	0.14	Weather—partially cloudy and cold. The shower of rain on the 19th has done much good to the spring crops. Harvesting of <i>amra</i> is nearly over with good results. Prospects of standing crops good. Condition of <i>ganja</i> good at Nowgong. Price of rice almost stationary.																
13	Rungpur .. 25, '90	0.5	Weather—cool and cloudy with light showers of rain. Mustard is being gathered. Prospects of <i>rabbi</i> crops good. Ploughing facilitated by rain.																
	Gaibanda ...	0.19																	
14	Bogra .. 25, '90	0.79	Weather—seasonable. Rain on two days; on the 20th it rained with hail-stones. Reaping of <i>amra</i> nearly finished. Other crops are also being reaped. A little damage was caused by the hail of the 20th. Rice is being sold at 21 seers per rupee at head-quarters.																
	Nowkhilla ...	1.14																	
15	Pabna .. 25, '90	0.23	Weather—seasonable and cloudy at the latter part of the week. <i>Amra</i> crop is still being reaped. Mustard and tobacco are expected to be 13 annas crops. Recent rain has done good to crops.																
16	Darjeeling .. 25, '90	0.85	Weather—cold and cloudy with occasional rain and snow. In the hills wheat and barley continue to progress favourably, and fields are being prepared for potatoes. In the Terai harvesting of <i>amra</i> , mustard, and potatoes continues. Transplanting of tobacco nearly completed.																
17	Jalpigoree .. 25, '90	0.13	Weather—cloudy and cold. Cutting of <i>aimant</i> paddy completed; outturn good. <i>Rabbi</i> crops doing well. Prices stationary.																

No.	District and date of return.	Rainfall at radder station in inches.	Character of the weather and state and prospects of the crops.
<b>BENGAL—concluded.</b>			
<i>Eastern Districts.</i>			
Dacca Divn.	18 Dacca Jan. 25, '90	Figures not given.	Weather—seasonable. Sowing of <i>boro</i> paddy continues. Winter crops doing well. Recent rain has done good to the standing crops. Mustard and pulses are being gathered. Fodder is available. No special change in the prices of food-grains. Common rice sold at from 14 to 16½ seers per rupee during the week.
	19 Farre-dpur „ 25, '90	1.45	Weather—seasonable. Mornings occasionally foggy and cloudy. State and prospects of <i>rubbī</i> crops continue fair. Cultivation and sowing of <i>joli</i> and <i>boro</i> in progress. Rain has done much good to the standing crops. Coarse rice selling at 14 seers per rupee in Sudder, 17 seers in Goalundo, and 14½ seers in Madaripur. Outturn of <i>amra</i> paddy did not exceed 10 annas in Sudder owing to the damage done by unusual flood. From Goalundo and Madaripur it is reported to be 16 and 14 annas respectively.
	20 Backergunge „ „	—	Report not received.
	21 Wymensingh „ 25, '90	1.16	On the night of the 19th rain fell accompanied by strong wind and hailstones, and there was rain also on the 24th. Weather cool and sometimes cloudy. Rain has done much good to standing crops. Harvesting of <i>amra</i> paddy nearly completed. Mustard and pulses are still being gathered. Transplanting of <i>boro dhan</i> continues. Common rice sells at 13 seers 5 chittacks per rupee.
Chittagong Divn.	22 Chittagong „ 25, '90	0.86	Weather—seasonable. Prospects and state of winter crops good.
	23 Nankhelly „ 25, '90	0.39	Weather—cloudy; rather warm for the season. <i>Rubbī</i> crops getting on well. Late rain has done some good to the crops.
	24 Tipperah Brahmanbariah Chandpur „ 25, '90	0.45 1.19 0.55	Weather—seasonable. Recent rain has benefited the winter crops. Mustard is being collected. Transplanting of <i>boro dhan</i> going on.
	25 Chittagong Hill Tracts „ 24, '90	0.08	Weather—very cold with dense fogs in the mornings throughout the week, except on the morning of the 20th, which was cloudy with drizzling rain. Tobacco, chillies, and other winter crops progressing. Gathering of mustard commenced in some places.
	Hill Tipperah Jan 25, '90	0.30	Weather—cloudy. Reaping of <i>amra</i> paddy finished. Chillies and tobacco doing well.
<b>BEHAR.</b>			
Patna Divn.	26 Patna „ 25, '90	0.08	Weather—cloudy towards the end of the week. Slight showers of rain on the night of the 23rd. Harvesting of paddy over. Prospects of <i>raabī</i> continue good. Mustard promising. Poppy flowering and looks well. Prices of food-grains almost stationary.
	27 Gaya „ 25, '90	Nil	Weather—cold and cloudy. Prospects of poppy and <i>rubbī</i> good. Harvesting of paddy still going on. Food-stock sufficient.
	28 Chahabad „ 25, '90	Nil	Weather—cloudy with north-easterly wind. Prospects of all <i>rubbī</i> crops continue good. They are now in ear. A shower of rain would be beneficial. Poppy thriving and coming into flower. Pressing of sugarcane going on. Prices stationary.
	29 Darbhanga „ 25, '90	0.23	Weather—latter part of the week cloudy throughout district. Rain last night (24th) at head-quarters. It will greatly benefit the <i>rubbī</i> crops, wheat and barley, the prospects of which are very favourable. Tobacco is being harvested. Poppy doing well. Price of common rice ranges from 19 to 21½ seers per rupee.
	30 Measurpur „ 25, '90	Figures not given.	Weather—cloudy; slight rain on the 24th. All standing crops doing well. Mustard crop commencing to be cut.
	31 Saran „ 25, '90	Nil	Weather—clear, but occasionally cloudy. Weather unfavourable for poppy. Prospects of this crop, however, continue good. <i>Rubbī</i> crops, including mustard, look well. Sugarcane pressing is in full progress.
	32 Champaran „ 25, '90	0.99	Weather—clear and cold to-day (25th). Rain fell on the 23rd and on the night of the 24th, immensely benefiting the standing crops of <i>rubbī</i> and poppy, but slight damage is apprehended to wheat. Indigo fields are being prepared. Sugarcane is being pressed. Prices of food-grains stationary.
Ranchpore Divn.	33 Monghyr „ 25, '90	Nil	Weather—cold and cloudy at the latter part of the week. <i>Rubbī</i> crops doing well. Prospects of poppy fair.
	34 Bhagalpur „ 25, '90	Nil	Weather—rather too warm and cloudy. Mornings foggy. Prospects promising, but rain wanted for <i>rubbī</i> crops.
	35 Purneah „ 25, '90	0.02	Weather—cloudy and cold with west wind. Mustard is being harvested. Tobacco and <i>rubbī</i> crops doing well, but want a shower of rain. Early ploughings going on.
	36 Malda „ 25, '90	Nil	Weather—mornings foggy and occasionally cloudy. Days and nights hot. Harvesting of winter rice over. <i>Kalai</i> and mustard are still being gathered. Transplanting of <i>boro</i> paddy going on. Wheat promising. Prospects of other standing crops good. Common rice selling at an average of 17 seers per rupee.
	37 Mithai Perga „ 25, '90	0.02	Weather—cold and seasonable. Threshing of paddy continues with average outturn. Prospects of <i>rubbī</i> crops good.



No.	District and date of return.	Rainfall at Sudder Station in inches.	Character of the weather and state and prospects of the crops.
<b>ORISSA.</b>			
ORISSA DIV.	36 Cuttack Jan. 25, '90	Nil	Weather—seasonable. Prospects of crops continue good.
	39 Poonoo „ 24, '90	Nil	Weather—seasonable. Harvesting of winter rice (late <i>zard</i> ) still continues in the Sudder subdivision, but is finished in the Khorda subdivision. <i>Dalua</i> and <i>mung</i> crops doing well. Price of common rice varies from 21 to 29 seers per rupee in the Sudder subdivision and 20 to 27 seers in the Khorda subdivision.
	40 Balasore „ 25, '90	Nil	Weather—seasonable. <i>Rubbi</i> crops doing fairly well.
<b>CHOTA NAPORE.</b>			
South-West Frontier Agency.			
CHOTA NAPORE DIV.	41 Hazaribagh Jan. 25, '90	Nil	Weather—cold and seasonable. Crops generally very promising. A little rain is needed.
	42 Lohardugga „ 25, '90	0.01	Weather—cloudy. Prospects of <i>rubbi</i> crops good. Rain much wanted in the subdivision. Lac gathering finished in Palamou, yield 12 annas on the average.
	43 Singhbhum „ 25, '90	Nil	Weather—seasonable. Oilseeds and pulses are expected to give an outturn of from 12 to 16 annas. Prospects favourable.
	44 Manbhum „ 25, '90	Nil	Weather—seasonable. Prospects of <i>rubbi</i> crops good. Sugarcane is being pressed; probable outturn 12 annas. Coarse rice selling in the Purulia market at 22 seers per rupee.

Published for general information.

CALCUTTA; REVENUE DEPT.,  
The 28th January, 1890.P. NOLAN,  
Secy. to the Govt. of Bengal.

## Meteorological Report of the Province of Bengal

		STATION OBSERVATIONS.														
		District.	Representative station.	AIR PRESSURE.			WIND.		TEMPERATURE.							
				Mean barometric height, a.m.	Mean reduced to sea-level.	Variation from mean.	Prevailing direction.	Mean wind velocity.	Highest during week.	Date.	Lowest during week.	Date.	Mean maximum temperature.	Mean minimum temperature of week.	Mean daily temperature of prevailing wind.	Variation from mean of week.
UNDA.	UNDA.	Pooree	Pooree	29.948	29.961	—	N	147	85.7	21st Jan.	62.8	19th Jan.	82.4°	65.6°	74.0°	—
		Poise Point	Poise Point	29.944	29.954	—0.070	NNW	138	85.3	21st	67.0	18th	81.0	65.3	75.2	+3.2
		Cuttack	Cuttack	29.967	29.981	—0.018	NW	26	85.9	21st	69.4	18th	86.1	61.7	78.9	+1.4
		Balasore	Balasore	29.914	29.976	—0.114	NNW	76.0	85.4	20th	63.5	21st	82.5	57.8	78.2	+2.4
NORTH-WEST BUREAU.	NORTH-WEST BUREAU.	South-West Midnapore	Saugor Island	29.935	29.962	—0.118	Variable	224	79.7	20th	60.9	18th	77.6	64.4	71.1	+2.0
		South-East Midnapore	Midnapore	29.915	29.973	—0.127	Calm	23.0	86.3	20th	65.2	18th	83.5	64.6	71.0	+4.1
		Midnapore	Midnapore	29.915	29.973	—0.127	Calm	23.0	86.3	20th	65.2	18th	83.5	64.6	71.0	+4.1
		North-West Midnapore	Calcutta	29.940	29.983	—0.126	Variable	58	81.5	20th	65.8	18th	78.9	69.5	69.2	+3.3
NORTH-WEST BUREAU.	NORTH-WEST BUREAU.	North-East Midnapore	Hurdwan	29.965	29.964	—0.131	North-westerly	40.8	85.5	20th	65.8	18th	80.7	69.8	70.2	+1.6
		Burdwan	Burdwan	29.961	29.980	—0.100	Calm	42	85.0	21st	65.6	18th	81.2	68.0	69.0	+6.7
		Bankura	Bankura	29.965	29.967	—0.124	Calm	55.8	85.2	20th	66.1	18th	81.6	68.3	70.0	+4.1
		West Burdwan	Raneesburi	29.965	29.967	—0.124	Calm	55.8	85.2	20th	66.1	18th	81.6	68.3	70.0	+4.1
NORTH-WEST BUREAU.	NORTH-WEST BUREAU.	Mooreabad	Herhampore	29.944	29.983	—0.114	Variable	54.1	80.0	20th	66.2	18th, 19th Jan.	78.5	67.9	64.1	+3.3
		Nuddea	Krishnachhat	29.914	29.983	—0.114	WNW	69.0	85.6	20th	65.9	18th	80.2	67.7	68.9	+4.6
		Jessore	Jessore	29.921	29.956	—0.125	Calm	27.2	81.7	20th	66.5	18th	79.8	69.1	69.6	+3.9
		Kheolna	Chittagong	29.972	29.967	—0.145	North-westerly	60.9	81.1	19, 20, 21	60.1	18th, 19th Jan.	79.6	68.2	68.8	+3.8
EAST BUREAU.	EAST BUREAU.	Chittagong Hill Tracts	Demagiri	29.944	29.967	—0.106	Calm	55.8	79.3	19th Jan.	50.1	18th	78.1	59.4	64.8	+4.1
		Roachpore	Barisal	29.944	29.967	—0.106	Calm	55.8	79.3	19th Jan.	50.1	18th	78.1	59.4	64.8	+4.1
		Noakhali	Noakhali	29.944	29.967	—0.106	N	64.4	81.3	19th	64.9	18th	79.5	68.6	68.0	—
		Farrakka	Farrakka	29.931	29.973	—0.096	Calm	25	74.0	22nd	60.9	18th	75.7	65.3	68.9	+2.2
EAST BUREAU.	EAST BUREAU.	Dacca	Dacca	29.931	29.973	—0.122	North-easterly	57.9	81.1	20th	60.8	22nd, 23rd Jan.	70.8	67.7	68.7	+3.7
		Tipperah	Comillab	29.931	29.973	—0.122	North-easterly	57.9	81.1	20th	60.8	22nd, 23rd Jan.	70.8	67.7	68.7	+3.3
		Mymensingh	Mymensingh	29.931	29.973	—0.122	E	40.8	77.0	19th	60.8	21st	76.3	67.5	66.9	+2.6
		Hogra	Hogra	29.931	29.973	—0.122	Calm	54.2	79.6	20th	63.1	18th	77.0	68.3	66.4	+2.1
NORTH BUREAU.	NORTH BUREAU.	Patna	Seraungde	29.940	29.958	—0.112	NE	22.0	79.0	20th	62.6	22nd	78.2	68.2	66.7	+2.6
		Rajshahi	Rampore Beaulieu	29.934	29.967	—0.095	Variable	22.8	80.1	20th	60.7	18th, 22nd Jan.	77.7	67.3	67.8	+6.0
		Maidah	Maidah	29.936	29.982	—0.095	NW	59.8	79.7	20th	62.7	18th	78.5	63.5	66.0	—
		Dinapore	Dinapore	29.946	29.967	—0.059	NE	62	79.1	22nd	62.2	19, 19, 22 A 23 Jan.	77.6	63.8	65.7	+4.9
NORTH BUREAU.	NORTH BUREAU.	Kumraon	Kumraon	29.946	29.964	—0.078	ENE	20	79.6	21st	61.9	18th, 22nd Jan.	77.5	63.4	65.4	+3.7
		Jalpigoree	Jalpigoree	29.946	29.964	—0.080	NE	?	?	?	61.9	21st	?	63.8	?	?
		Jaipur	Jaipur	29.946	29.964	—0.080	NE	?	?	?	61.9	21st	?	63.8	?	?
		Jaipur	Jaipur	29.946	29.964	—0.080	NE	?	?	?	61.9	21st	?	63.8	?	?
NORTH BUREAU.	NORTH BUREAU.	Darjeeling Hill Tracts	Darjeeling	29.946	29.964	—0.080	WSW	138.1	83.9	19th	64.7	20th	83.5°	65.7	64.5°	+6.3
		Purneah	Purneah	29.935	29.960	—0.116	Calm	28.5	76.2	22nd, 23rd, 24th Jan.	60.5	19th	76.8	63.4	63.9	+2.3
		Meerutpore	Meerutpore	29.937	29.963	—0.109	ENE	63	77.4	24th Jan.	63.4	19th	76.3	66.7	66.3	+4.7
		Dumraon	Dumraon	29.943	29.965	—0.089	North-easterly	61.2	78.2	22nd—24th Jan.	60.9	19th, 22nd Jan.	78.3	63.2	63.7	+4.4
NORTH BUREAU.	NORTH BUREAU.	Chumarna	Chumarna	29.947	29.972	—0.060	North-easterly	63.6	78.0	24th Jan.	61.0	18th	77.0	64.7	65.8	+5.0
		Saran	Saran	29.947	29.972	—0.060	North-easterly	63.6	78.0	24th Jan.	61.0	18th	77.0	64.7	65.8	+5.0
		Shahabad	Shahabad	29.947	29.972	—0.060	North-easterly	63.6	78.0	24th Jan.	61.0	18th	77.0	64.7	65.8	+5.0
		Gya	Gya	29.947	29.972	—0.060	North-easterly	63.6	78.0	24th Jan.	61.0	18th	77.0	64.7	65.8	+5.0
NORTH BUREAU.	NORTH BUREAU.	Patna	Patna	29.947	29.972	—0.060	North-easterly	63.6	78.0	24th Jan.	61.0	18th	77.0	64.7	65.8	+5.0
		North Bhagalpur	Bhagalpur	29.947	29.972	—0.060	North-easterly	63.6	78.0	24th Jan.	61.0	18th	77.0	64.7	65.8	+5.0
		South Bhagalpur	Bhagalpur	29.947	29.972	—0.060	North-easterly	63.6	78.0	24th Jan.	61.0	18th	77.0	64.7	65.8	+5.0
		Manchhee	Manchhee	29.947	29.972	—0.060	North-easterly	63.6	78.0	24th Jan.	61.0	18th	77.0	64.7	65.8	+5.0
NORTH BUREAU.	NORTH BUREAU.	Chyaboon	Chyaboon	29.947	29.972	—0.060	North-easterly	63.6	78.0	24th Jan.	61.0	18th	77.0	64.7	65.8	+5.0
		Chyaboon	Chyaboon	29.947	29.972	—0.060	North-easterly	63.6	78.0	24th Jan.	61.0	18th	77.0	64.7	65.8	+5.0
		Chyaboon	Chyaboon	29.947	29.972	—0.060	North-easterly	63.6	78.0	24th Jan.	61.0	18th	77.0	64.7	65.8	+5.0
		Chyaboon	Chyaboon	29.947	29.972	—0.060	North-easterly	63.6	78.0	24th Jan.	61.0	18th	77.0	64.7	65.8	+5.0

Explanation.—Summary.—The normal means of air pressure and temperature are the arithmetic average of means of the readings during the same period for the years 1871 to 1890. The humidity of the atmosphere is expressed at percentage, saturated air being presumed to be 100. A clear sky is denoted by c and an overcast sky by 10. The normal means of the amount of rain are the arithmetic average of the rainfall in that district determined from the records sent in by the individual stations for the period in question during the years 1871 to 1890. A rainy day is one on which at least hundredth of an inch fell.

for the week ending Friday, the 24th of January 1890.

DISTRICT OBSERVATIONS.														Representative station.	District.	Meteorological Division.
Average humidity at 3 A.M.	Average cloud amount at 3 A.M. for week.	Max. fall of week at observing station.	OF WIND.		RAINFALL.											
			Mean for district.	Normal mean.	Since 1st of month.			Since 15th May 1889.			Average number of rainy days.	Normal number of rainy days.				
					Mean for district.	Normal mean.	Variation.	Mean for district.	Normal mean.	Variation.						
85	0	Nil	Nil	0.07	Nil	0.14	-0.14	76.83	55.31	+10.57	0.0	0.2	Pooree	Pooree	Orissa.	
72	0.1	Nil	Nil	0.00	Nil	0.16	-0.16	66.24	51.71	+14.53	0.0	0.2	Gopalpore	Gopalpore		
91	0.0	Nil	Nil	0.00	Nil	0.19	-0.19	40.80	52.70	-11.90	0.0	0.2	False Point	False Point		
79	0.7	Nil	Nil	0.06	Nil	0.16	-0.16	66.24	51.71	+14.53	0.0	0.2	Cuttack	Cuttack	Orissa.	
84	0	Nil	Nil	0.04	Nil	0.19	-0.19	40.80	52.70	-11.90	0.0	0.2	Balasore	Balasore		
93	1.0	Nil	Nil	0.07	Nil	0.28	-0.23	55.43	62.24	-6.81	0.0	0.3	Saugor Island	South-West Midnapore		
78	0.7	Nil	Nil	0.06	Nil	0.31	-0.31	46.20	51.35	-5.15	0.0	0.2	Midnapore	South-West Midnapore	Orissa.	
93	1.0	Nil	Nil	0.09	Nil	0.32	-0.32	55.35	51.50	+3.85	0.0	0.3	Midnapore	Midnapore		
84	0	0.12	0.04	0.10	0.04	0.21	-0.17	45.87	46.52	-0.65	0.3	0.3	Calcutta	Calcutta		
84	0	Nil	0.00	0.12	0.03	0.20	-0.17	55.01	52.40	+2.61	0.3	0.3	Burdwan	Burdwan	South-West Bengal.	
82	0.1	0.06	0.01	0.10	0.01	0.32	-0.31	52.45	51.50	+0.95	0.3	0.4	Bankura	Bankura		
95	2.4	0.12	0.02	0.10	0.02	0.37	-0.35	51.17	52.40	-1.23	0.3	0.4	Raneegunge	Barhampore		
80	1.7	Nil	0.06	0.05	0.00	0.20	-0.14	51.50	49.00	+2.50	0.3	0.3	Krishnagar	Moorsheadabad	South-West Bengal.	
94	2.3	Nil	0.15	0.13	0.13	0.32	-0.19	53.54	52.29	+1.25	0.6	0.3	Jessore	Nudda		
90	1.0	Nil	0.00	0.20	Nil	0.46	-0.40	100.02	113.08	-13.06	0.0	0.3	Chittagong	Jessore		
91	0.7	0.03	0.14	0.10	0.14	0.42	-0.38	65.17	81.05	-15.88	0.5	0.5	Demagiri	Chittagong	South-West Bengal.	
86	0.5	0.05	0.06	0.10	0.00	0.50	-0.50	90.05	106.40	-16.35	1.5	0.3	Barrisal	Chittagong Hill Tracts		
85	0.9	Nil	1.45	0.11	1.45	0.23	+1.20	61.77	55.60	+6.17	1.3	0.3	Noakhally	Bachagunge		
84	1.0	0.20	0.44	0.09	0.44	0.23	+0.21	70.03	59.40	+10.63	1.0	0.3	Furzedpore	Noakhally	East Bengal.	
85	0.4	0.06	0.09	0.15	0.00	0.45	-0.45	56.04	62.27	-6.23	1.0	0.4	Dacca	Furzedpore		
91	2.0	1.30	0.61	0.10	0.51	0.27	+0.24	88.14	67.48	+20.66	0.6	0.3	Comilla	Dacca		
90	1.4	0.16	0.42	0.10	0.42	0.27	+0.15	65.25	57.20	+8.05	1.0	0.4	Mymensingh	Comilla	East Bengal.	
90	0.9	0.08	0.31	0.09	0.31	0.28	-0.07	55.28	53.17	+2.11	1.0	0.4	Bogra	Mymensingh		
88	0.6	0.03	0.08	0.14	0.03	0.42	-0.39	54.35	53.74	+0.61	0.3	0.4	Serajpore	Bogra		
80	1.1	Nil	Nil	0.13	Nil	0.20	-0.20	39.76	54.11	-14.35	0.0	0.4	Rajshahi	Serajpore	North Bengal.	
85	1.9	Nil	0	0.14	0	0.20	-0.20	57.37	56.89	+0.48	0.3	0.4	Maidah	Rajshahi		
92	1.7	0.32	0.48	0.14	0.50	0.31	+0.19	80.61	74.03	+6.58	1.5	0.4	Dinapore	Maidah		
91	2.7	0.16	0.50	0.14	0.56	0.24	+0.32	117.00	111.44	+5.56	1.4	0.5	Rungpore	Dinapore	North Bengal.	
81	0.0	0.24	0.20	0.32	0.32	0.53	-0.21	133.27	130.81	+2.46	1.5	1.0	Julpigore	Rungpore		
80	1.7	Nil	0.29	0.19	0.29	0.34	-0.05	76.00	68.48	+7.52	0.4	0.4	Darjeeling	Julpigore		
88	1.3	Nil	0.14	0.11	0.11	0.42	-0.31	48.77	43.63	+5.14	0.3	0.4	Purneah	Darjeeling Hill Tracts	North Bengal.	
80	0.8	0.02	0.06	0.12	0.08	0.40	-0.32	63.03	46.55	+16.48	1.0	0.3	Mozufferpore	Purneah		
82	0.9	Nil	Nil	0.10	Nil	0.40	-0.40	40.13	42.61	-2.48	0.0	0.4	Darbhanga	North Bhagipore		
81	1.9	Nil	Nil	0.10	Nil	0.54	-0.44	40.07	40.14	-0.07	0.0	0.5	Motihari	Mozufferpore	North Bengal.	
83	1.4	0.03	Nil	0.11	Nil	0.40	-0.40	40.07	40.14	-0.07	0.0	0.5	Chupra	Darbhanga		
89	2.6	Nil	Nil	0.11	Nil	0.40	-0.40	40.07	40.14	-0.07	0.0	0.5	Dehree	Chumpanan		
76	1.3	Nil	Nil	0.10	Nil	0.47	-0.47	37.07	41.36	-4.29	0.0	0.5	Buxar	Sarun	North Bengal.	
87	2.0	0.08	Nil	0.10	Nil	0.40	-0.40	43.40	41.18	+2.22	0.0	0.5	Arrah	Dehree		
83	1.4	Nil	Nil	0.10	Nil	0.37	-0.37	42.43	43.45	-1.02	0.0	0.5	Gya	Buxar		
87	0.7	0.03	0	0.14	0	0.30	-0.30	54.15	50.04	+4.11	0.3	0.4	Bankipore	Arrah	North Bengal.	
80	0	Nil	Nil	0.17	Nil	0.48	-0.48	45.03	50.56	-5.53	0.0	0.5	Bhagipore	Gya		
87	0.3	Nil	Nil	0.11	Nil	0.32	-0.32	44.34	40.77	+3.57	0.0	0.5	Chyabasa	Bankipore		
86	0	Nil	Nil	0.10	Nil	0.44	-0.44	48.76	51.23	-2.47	0.0	0.5	Chyabasa	South Bhagipore	North Bengal.	
86	0	Nil	Nil	0.10	Nil	0.44	-0.44	48.76	51.23	-2.47	0.0	0.5	Chyabasa	Monahy		
86	0	Nil	Nil	0.10	Nil	0.44	-0.44	48.76	51.23	-2.47	0.0	0.5	Chyabasa	South Bhagipore		

100 years. The variations are negative when the mean for the week is less than the corresponding normal mean, and positive when greater. The mean for the district is the numerical average of the rainfall returns received in the district, i.e., from total rainfall at the individual stations.

## Statement of Rainfall in Bengal for the week ending Friday (8 a.m.), the 24th of January 1890.

Meteorological division.	District.	Station.	Rainfall.							TOTAL		Total rain-fall since 1st of month.	Average total rain-fall from 1st of month.	Total rain-fall since 1st of May 1889.	Average rain-fall from 1st of May to date.
			Saturday, 18th January.	Sunday, 19th January.	Monday, 20th January.	Tuesday, 21st January.	Wednesday, 22nd January.	Thursday, 23rd January.	Friday, 24th January.	Number of rainy days.	of Rainfall week.				
ORISSA.	Purree	Purree	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.09	80.05	51.17
		Khurda	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.14	76.57	50.38
		Bangur	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.05	65.50	48.05
		False Point	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.25	70.80	53.33
		Gop	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	?	?
		Pipli	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	?	?
	Cuttack	Jaratinspore	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.15	73.97	46.86
		Bauki	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.11	67.43	49.37
		Cuttack	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.11	55.86	50.11
		Kondrapara	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.25	72.03	53.03
		Jajpore	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.22	65.64	53.76
SOUTH-WEST BENGAL.	Haldibari	Haldibari	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	?	?
		Chandbali	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.19	54.94	52.14
		Bandar	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.11	67.86	51.40
		Sagar	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.11	46.93	50.37
		Haldibari	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.21	47.61	57.67
	Midnapore	Midnapore	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.21	59.53	50.51
		Haridwar	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.21	64.79	53.71
		Contai	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.15	55.15	51.13
		Saugor Island	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.15	56.74	50.39
		Tumuck	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.22	49.40	51.05
64-Pergunnahs.	Diamond Harbour	Diamond Harbour	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.36	63.41	58.25
		Osmania Town	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	?	?
		Alipore Jail	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.47	51.90	55.04
		Barrackpore	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.51	51.19	49.71
		Dum-Dum	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.44	61.58	51.51
	Howrah	Howrah	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.53	57.81	49.02
		Bunderhat	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.25	60.92	54.66
		Howrah	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.57	56.12	51.30
		Mohurda	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.57	54.64	51.87
		Chokhera	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	?	?
Burdwan.	Burdwan	Burdwan	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.25	55.27	49.96
		Howrah	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.25	54.05	49.04
		Johannabad	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.18	41.16	54.94
		Chitna	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.71	41.32	44.19
		Bandwan	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.12	47.19	47.51
	Hankoor	Hankoor	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.25	43.41	47.53
		Chitna	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.19	55.88	49.89
		Kaushal	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.52	53.80	?
		Manik	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	?	?
		Manik	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	?	?
Hooghly.	Hooghly	Hooghly	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.14	50.79	51.29
		Hankoor	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.14	57.49	51.78
		Manik	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.17	51.76	51.76
		Kaushal	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.27	65.01	54.80
		Manik	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	?	?
	Nadua	Nadua	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	?	?
		Kaushal	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	?	?
		Manik	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	?	?
		Manik	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	?	?
		Manik	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	?	?
Kolkata.	Kolkata	Kolkata	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.21	51.80	49.88
		Kolkata	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.17	42.95	45.01
		Kolkata	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.21	40.88	50.90
		Kolkata	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.19	57.15	47.41
		Kolkata	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.21	46.08	54.26
	Kolkata	Kolkata	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.31	51.51	55.07
		Kolkata	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.41	51.50	51.28
		Kolkata	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.43	50.90	54.64
		Kolkata	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	?	?
		Kolkata	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	?	?
Jessore.	Jessore	Jessore	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.45	49.50	45.73
		Jessore	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.55	62.55	51.70
		Jessore	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.25	50.74	53.24
		Jessore	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.19	50.73	49.08
		Jessore	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.23	60.01	51.64
	Moorebadda	Moorebadda	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.23	53.58	50.36
		Moorebadda	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.42	40.28	51.19
		Moorebadda	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.19	47.13	50.74
		Moorebadda	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.40	51.10	51.10
		Moorebadda	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.41	55.01	49.08
SOUTH-EAST BENGAL.	Chittagong	Chittagong	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.47	59.02	50.25
		Chittagong	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	?	?
		Chittagong	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	?	?
		Chittagong	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	?	?
		Chittagong	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	?	?
	Chittagong	Chittagong	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.44	125.50	155.46
		Chittagong	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.40	70.42	54.30
		Chittagong	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	?	?
		Chittagong	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	?	?
		Chittagong	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	?	?
SOUTH-EAST BENGAL.	Chittagong	Chittagong	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.46	63.12	55.00
		Chittagong	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.37	67.20	50.30
		Chittagong	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	?	?
		Chittagong	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	?	?
		Chittagong	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	?	?	?
	Chittagong	Chittagong	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.46	67.30	57.47
		Chittagong	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.40	77.88	50.30
		Chittagong	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.51	72.71	57.47
		Chittagong	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.51	72.71	57.47
		Chittagong	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	0.51	72.71	57.47

## Statement of Rainfall in Bengal for the week ending Friday (8 a.m.), the 24th of January 1890 -contd.

Meteorological Division.	District.	Station.	RAINFALL							TOTAL		Total rain-fall since 1st of month.	Average total rain-fall from 1st of month.	Total rain-fall since 15th May 1889.	Average rainfall from 15th May to date.	
			Saturday, 19th January 1890.	Sunday, 20th January.	Monday, 21st January.	Tuesday, 22nd January.	Wednesday, 23rd January.	Thursday, 24th January.	Friday, 25th January.	Number of rainy days.	of Rainfall week.					
WEST BENGAL	Northcholly	Gourmaddi	.....	.....	.....	.....	.....	.....	.....	NH	NH	?	?	61.31	?	
		Northcholly	.....	.....	0.10	0.08	.....	.....	.....	2	0.27	0.27	0.45	107.84	107.85	
		Barishpore	.....	.....	0.42	.....	.....	.....	.....	1	0.42	0.42	0.45	75.83	104.96	
	Furzedpore	Barishpore	.....	.....	.....	.....	.....	.....	.....	NH	NH	?	?	84.75	?	
		Furzedpore	.....	.....	0.09	0.30	.....	.....	.....	2	0.39	0.39	0.39	71.85	55.33	
		Iscolundo	.....	1.55	.....	.....	.....	.....	.....	1	1.55	1.55	0.27	67.64	55.90	
	Dacca	Munshingunge	.....	.....	0.20	.....	.....	.....	.....	1	0.20	0.20	0.20	70.83	67.47	
		Dacca	.....	.....	0.22	.....	.....	.....	.....	1	0.22	0.22	0.22	71.91	67.49	
		Narsingunge	.....	.....	0.44	.....	.....	.....	.....	1	0.44	0.44	0.19	107.90	69.37	
	Hill Tipperah	Mamukhuria	.....	.....	0.51	.....	.....	.....	.....	1	0.51	0.51	0.27	68.50	69.84	
		Jaydhpore	.....	.....	1.16	.....	.....	.....	.....	1	1.16	1.16	?	67.77	?	
		Agartala	.....	.....	0.15	.....	.....	.....	.....	1	0.15	0.15	0.45	64.26	61.39	
	NORTH BENGAL	Mymensingh	Comilla	.....	.....	0.45	.....	.....	.....	.....	1	0.45	0.45	0.45	62.62	75.92
			Bandipore	.....	.....	0.35	.....	.....	.....	.....	1	0.35	0.35	0.29	65.77	70.14
			Brachmanberia	.....	.....	1.10	.....	.....	.....	.....	1	1.10	1.10	0.63	61.87	63.85
		Pabna	Ramchandrapore	.....	.....	0.29	.....	.....	.....	.....	1	0.29	0.29	?	60.43	?
			Dakshin	.....	.....	0.20	.....	.....	.....	.....	1	0.20	0.20	?	30.80	?
			Dandbandi	.....	.....	0.72	.....	.....	.....	.....	1	0.72	0.72	?	23.01	?
		Rajshahi	Kusha	.....	.....	.....	.....	.....	.....	.....	NH	NH	NH	?	62.44	?
			Lakshem	.....	.....	0.30	.....	.....	.....	.....	1	0.30	0.30	?	49.39	?
Kishoreganj			.....	.....	.....	.....	.....	.....	.....	NH	NH	NH	0.45	60.24	60.24	
Mymensingh		Ala (Tangali)	.....	.....	0.54	.....	.....	.....	.....	1	0.54	0.54	0.22	61.96	55.41	
	NORTH BENGAL		Mymensingh	.....	.....	1.10	.....	.....	.....	.....	1	1.10	1.10	0.22	97.71	73.66
			Jamalpur	.....	.....	0.34	.....	.....	.....	.....	1	0.34	0.34	0.29	85.45	64.05
Rajshahi	Narail	.....	.....	0.20	.....	.....	.....	.....	1	0.20	0.20	0.08	126.12	72.40		
	Shyamnagar	.....	.....	.....	.....	.....	.....	.....	NH	NH	NH	?	67.61	?		
	Shyamnagar	.....	.....	0.24	.....	.....	.....	.....	1	0.24	0.24	?	150.25	?		
Pabna	Shyamnagar	.....	.....	0.50	.....	.....	.....	.....	2	0.50	0.50	?	87.75	?		
	Shyamnagar	.....	.....	0.16	.....	.....	0.20	0.41	3	0.77	0.77	?	67.09	?		
	Shyamnagar	.....	.....	0.35	.....	.....	.....	.....	1	0.35	0.35	0.21	60.30	55.30		
Rajshahi	Shyamnagar	.....	.....	0.08	.....	.....	.....	.....	1	0.08	0.08	0.31	60.34	55.71		
	Shyamnagar	.....	.....	.....	.....	.....	.....	.....	NH	NH	NH	0.50	62.66	57.04		
	Shyamnagar	.....	.....	.....	.....	.....	.....	.....	1	1.14	1.14	0.30	62.10	56.13		
NORTH BENGAL	Rajshahi	Shyamnagar	.....	.....	0.20	.....	.....	.....	.....	1	0.20	0.20	0.27	70.83	59.63	
		Shyamnagar	.....	.....	0.30	.....	.....	.....	0.02	2	0.32	0.32	0.21	65.29	56.61	
		Shyamnagar	.....	.....	.....	.....	.....	.....	.....	0.02	2	0.32	0.32	0.21	65.29	56.61
	Rajshahi	Shyamnagar	.....	.....	0.14	.....	.....	.....	.....	1	0.14	0.14	0.35	60.34	55.87	
		Shyamnagar	.....	.....	.....	.....	.....	.....	.....	NH	NH	NH	0.40	55.84	51.80	
		Shyamnagar	.....	.....	.....	.....	.....	.....	.....	NH	NH	NH	0.30	57.97	51.05	
	Rajshahi	Shyamnagar	.....	.....	.....	.....	.....	.....	.....	NH	NH	NH	?	50.72	?	
		Shyamnagar	.....	.....	.....	.....	.....	.....	.....	NH	NH	NH	?	45.77	?	
	Maidab	Maidab	.....	.....	.....	.....	.....	.....	.....	NH	NH	NH	0.30	60.30	51.30	
		Chanchal	.....	.....	.....	.....	.....	.....	.....	NH	NH	NH	0.41	58.06	50.01	
Shyamnagar		.....	.....	.....	.....	.....	.....	.....	NH	NH	NH	?	50.70	?		
Uttaraganga	Mohadabpore	.....	.....	.....	.....	.....	.....	.....	NH	NH	NH	0.21	63.63	56.13		
	Chorraman	.....	.....	.....	.....	.....	.....	.....	NH	NH	NH	0.30	62.70	57.05		
	Maidab	.....	.....	.....	.....	.....	.....	.....	NH	NH	NH	0.30	62.70	57.05		
Uttaraganga	Maidab	.....	.....	.....	.....	.....	.....	.....	NH	NH	NH	0.32	61.29	54.12		
	Thakurgaon	.....	.....	.....	.....	.....	.....	.....	0.01	1	0.01	0.01	61.29	54.12		
	Thakurgaon	.....	.....	.....	.....	.....	.....	.....	0.34	1	0.34	?	57.61	?		
Bangalore	Raswanigunge	.....	.....	0.15	.....	.....	.....	.....	0.02	2	0.30	0.30	0.20	67.73	61.55	
	(Tighanda)	.....	.....	.....	.....	.....	.....	.....	0.30	2	0.24	0.37	0.30	74.78	74.26	
	Raswanigunge	.....	.....	0.04	.....	.....	.....	.....	0.45	1	0.45	0.45	0.35	61.02	73.14	
Bangalore	Kuriganj	.....	.....	.....	.....	.....	.....	.....	0.80	1	0.80	0.80	0.38	88.40	88.40	
	Raswanigunge	.....	.....	.....	.....	.....	.....	.....	0.10	1	0.10	0.10	?	79.10	?	
	(Vijayamari)	.....	.....	.....	.....	.....	.....	.....	0.10	1	0.10	0.10	?	79.10	?	
Jalpaiguri	Jalpaiguri	.....	.....	.....	.....	.....	.....	.....	0.13	1	0.13	0.18	0.18	123.42	116.73	
	Alipore	.....	.....	.....	.....	.....	.....	.....	NH	NH	NH	?	110.78	?		
	Falacatta	.....	.....	0.20	.....	.....	.....	.....	0.10	2	0.10	0.10	?	123.42	?	
Jalpaiguri	Debaguri	.....	.....	0.21	.....	.....	.....	.....	0.61	2	1.02	1.02	?	100.74	?	
	Debaguri	.....	.....	0.23	.....	.....	.....	.....	2	0.20	0.71	?	120.22	?		
	Debaguri	.....	.....	.....	.....	.....	.....	.....	0.06	2	0.29	0.71	?	120.22	?	
Goach Behar	(Nayabhatta)	.....	.....	.....	.....	.....	.....	.....	0.44	2	0.48	0.67	0.28	98.07	90.00	
	Goach Behar	.....	.....	0.04	.....	.....	.....	.....	0.50	1	0.50	0.55	0.28	123.07	115.06	
	Goach Behar	.....	.....	.....	.....	.....	.....	.....	1.00	1	1.00	1.00	0.18	123.07	100.30	
Darjeeling Hill	Makilingmura	.....	.....	.....	.....	.....	.....	.....	0.63	2	0.40	0.40	0.30	117.05	111.00	
	Makilingmura	.....	.....	.....	.....	.....	.....	.....	0.30	2	0.30	0.51	0.51	102.70	102.70	
	Killiguri	.....	.....	0.03	0.27	.....	.....	.....	0.58	2	0.58	0.59	0.30	120.75	102.70	
Darjeeling Hill	Killiguri	.....	.....	.....	0.03	0.27	.....	.....	0.58	2	0.58	0.59	0.30	120.75	102.70	
	Killiguri	.....	.....	.....	0.34	.....	.....	.....	1	0.34	0.34	0.41	120.75	102.70		
	Killiguri	.....	.....	.....	0.20	.....	.....	.....	1	0.20	0.20	0.53	61.72	83.16		
Karnam	Karnam	.....	.....	0.70	.....	.....	.....	.....	0.05	3	1.35	1.98	?	170.23	?	
	Karnam	.....	.....	.....	.....	.....	.....	.....	0.05	3	1.35	1.98	?	170.23	?	
	Karnam	.....	.....	.....	.....	.....	.....	.....	0.05	3	1.35	1.98	?	170.23	?	
Purnea	Kissanganj	.....	.....	.....	.....	.....	.....	.....	1.80	1	1.80	0.37	0.37	103.07	70.75	
	Arrah	.....	.....	.....	.....	.....	.....	.....	0.14	1	0.14	0.21	79.55	63.54		
	Purnea	.....	.....	.....	.....	.....	.....	.....	0.03	1	0.02	0.03	63.47	61.31		
Purnea	Gondara	.....	.....	.....	.....	.....	.....	.....	NH	NH	NH	?	?	?	?	
	Malarampore	.....	.....	.....	.....	.....	.....	.....	NH	NH	NH	?	?	?	?	
	Malarampore	.....	.....	.....	.....	.....	.....	.....	NH	NH	NH	?	?	?	?	
North Bhagalpore	Kalyanpur	.....	.....	.....	.....	.....	.....	.....	0.30	1	0.30	0.20	0.20	60.83	60.16	
	Madhapore	.....	.....	.....	.....	.....	.....	.....	NH	NH	NH	0.20	60.83	60.16		
	Seopool	.....	.....	.....	.....	.....	.....	.....	NH	NH	NH	0.20	60.83	60.16		
Darbhanga	Prokashpur	.....	.....	.....	.....	.....	.....	.....	0.31	1	0.31	0.31	0.31	67.26	67.26	
	Prokashpur	.....	.....	.....	.....	.....	.....	.....	0.31	1	0.31	0.31	0.31	67.26	67.26	
	Prokashpur	.....	.....	.....	.....	.....	.....	.....	0.31	1	0.31	0.31	0.31	67.26	67.26	
Darbhanga	Tajpore	.....	.....	.....	.....	.....	.....	.....	NH	NH	NH	0.25	68.44	63.15		
	Jurainpore	.....	.....	.....	.....	.....	.....	.....	NH	NH	NH	0.25	68.44	63.15		
	Mathurapur	.....	.....	.....	.....	.....	.....	.....	0.41	1	0.41	0.41	0.41	68.44	63.15	
Darbhanga	Mathurapur	.....	.....	.....	.....	.....	.....	.....	NH	NH	NH	0.41	68.44	63.15		
	Mathurapur	.....	.....	.....	.....	.....	.....	.....	NH	NH	NH	?	68.44	63.15		
	Mathurapur	.....	.....	.....	.....	.....	.....	.....	NH	NH	NH	?	68.44	63.15		
Moufferspore	Kissanganj	.....	.....	.....	.....	.....	.....	.....	0.33	1	0.33	0.33	0.37	65.73	62.50	
	Moufferspore	.....	.....	.....	.....	.....	.....	.....	NH	NH	NH	0.33	65.73	62.50		
	Moufferspore	.....	.....	.....	.....	.....	.....	.....	NH	NH	NH	0.33	65.73	62.50		
Moufferspore	Purnea	.....	.....	.....	.....	.....	.....	.....	NH	NH	NH	?	?	?	?	
	Purnea	.....	.....	.....	.....	.....	.....	.....	NH	NH	NH	?	?	?	?	
	Purnea	.....	.....	.....	.....	.....	.....	.....	NH	NH	NH	?	?	?	?	
Moufferspore	Purnea	.....	.....	.....	.....	.....	.....	.....								



## Statement of Rainfall in Bengal for the week ending Friday (8 a.m.), the 24th of January 1890—concl.

Meteorological Division.	District.	Station.	RAINFALL.							TOTAL.		Total rainfall since 1st of month.	Average total rainfall from 1st of month.	Total rainfall since 1st of month.	Average rainfall from 1st of month.
			Saturday, 19th January.	Sunday, 20th January.	Monday, 21st January.	Tuesday, 22nd January.	Wednesday, 23rd January.	Thursday, 24th January.	Friday, 25th January.	Number of rainy days.	Rainfall in inch.				
NORTH BENGAL—concluded.	Chumpra.	Mothari	0.00	0.00	0.00	0.00	0.00	0.00	0.54	1	0.54	0.54	0.46	75.33	64.44
		Bettiah	0.00	0.00	0.00	0.00	0.00	0.00	0.12	1	0.12	0.12	0.14	22.51	67.73
		Burkura	0.00	0.00	0.00	0.00	0.00	0.00	0.37	1	0.37	0.37	?	70.26	?
SOUTH BENGAL	Barisal	Gopalpur	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.39	25.45	66.02
		Gopalpur	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.39	25.45	66.02
		Gopalpur	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.39	25.45	66.02
	Khairabad	Buxar	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.39	25.45	66.02
		Delhara	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.39	25.45	66.02
		Bhabua	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.39	25.45	66.02
		Sasaram	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.39	25.45	66.02
		Arrah	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.39	25.45	66.02
		Mohania	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.39	25.45	66.02
	Gya	Aurangabad	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.39	25.45	66.02
		Gya	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.39	25.45	66.02
		Nowadah	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.39	25.45	66.02
		Jehanabad	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.39	25.45	66.02
		Arwal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.39	25.45	66.02
		Bandhwa	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.39	25.45	66.02
	Patna	Patna	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.39	25.45	66.02
		Udaypur	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.39	25.45	66.02
		Barh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.39	25.45	66.02
CENTRAL BENGAL	Monghyr	Monghyr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.39	25.45	66.02
		Jamui	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.39	25.45	66.02
		Gopri	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.39	25.45	66.02
	South Bhagalpur	Shahpur	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.39	25.45	66.02
		Shahpur	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.39	25.45	66.02
		Shahpur	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.39	25.45	66.02
	Sonthal Pargannas	Rajmahal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.39	25.45	66.02
		Patna	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.39	25.45	66.02
		Nya Dumbha	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.39	25.45	66.02
	Mamhat	Mamhat	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.39	25.45	66.02
		Mamhat	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.39	25.45	66.02
		Mamhat	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.39	25.45	66.02
	Lohardaga	Lohardaga	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.39	25.45	66.02
		Lohardaga	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.39	25.45	66.02
		Lohardaga	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.39	25.45	66.02
	Singbhum	Singbhum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.39	25.45	66.02
		Singbhum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.39	25.45	66.02
		Singbhum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.39	25.45	66.02
	Westbhum	Westbhum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.39	25.45	66.02
		Westbhum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.39	25.45	66.02
		Westbhum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.39	25.45	66.02

Explanation.—Indicates that no rain has fallen. If the return for any day has not been received, the corresponding space is left blank. If any of the returns are wanting, the corresponding spaces in the total rainfall columns are left blank.

CALCUTTA, the 28th January 1890.

**SUMMARY OF THE METEOROLOGICAL AND RAINFALL OBSERVATIONS  
TAKEN IN BENGAL FOR THE WEEK ENDING FRIDAY, THE 24TH  
JANUARY 1890.**

THE meteorological conditions for the previous week had been fairly normal except that for a certain time southerly breezes had set in over parts of the province, and temperature and humidity had become decidedly above the normal. On the 18th and 19th of January the changes in the general meteorological conditions over Bengal were unimportant, but on the latter date there was evidence of the formation of a barometric depression, over the North-West Provinces. By the morning of the 20th this feeble depression, which was rather irregularly defined, had apparently travelled south-eastwards into South-West Bengal, and pressure was decidedly low at such stations as Calcutta and Saugor Island, round which area also there was a distinct but feeble cyclonic circulation of winds. With these disturbed conditions a number of rain showers occurred on the 20th in South-West and East Bengal and a few in North Bengal, but the rainfall was only important in East Bengal. On the morning of the 21st this feeble depression had passed away, and conditions became more normal for the north-east monsoon, and continued so in Bengal for the next two or three days; but in the meantime another depression was formed on the 22nd over North-Western India, and on this date its centre was apparently between Sirsa, Multan, and Jacobabad. On the morning of the 23rd the depression had moved in a south-easterly direction, and the centre on this day was apparently between Lucknow and Agra; while on the morning of the 24th the depression had again advanced in a south-easterly direction, and was beginning to make itself felt over Behar and Bengal. On this day, in fact, pressure was from a fifth to a quarter of an inch below the normal over a considerable part of Behar, Chutia Nagpur, and South-West and Central Bengal, but no very definite centre could be assigned to the depression from the observations made in the Bengal Presidency. Winds also appeared to show a rather irregular cyclonic circulation, or perhaps two circulations, the centre of one being in South Behar, and of the other in Chutia Nagpur. This, again, caused conditions to become disturbed over parts of Bengal, and rather numerous showers were reported on the morning of Friday, the 24th, over North Bengal and North Behar; but up to this time the disturbance had not advanced sufficiently far over Bengal to cause rain over the remainder of the province. At the close of the week, therefore, conditions were distinctly favourable for rain over a considerable part of the province. As is usual during the passage of barometric depressions, temperature became abnormally high, while the air was also rather largely saturated with moisture; the sky also became more or less clouded over during the passage of these depressions, so that as two of these depressions have affected the weather in the province during the week under review, the meteorological conditions have been decidedly abnormal.

**Pressure**—Has been below the normal almost throughout the week, and the mean pressure has been about a tenth of an inch lower than usual. The actual variations in the mean pressure are from a defect of 0.132 inch at Berhampur to one of 0.078 inch at Rungpur.

**Temperature**—As stated previously, has been decidedly high, particularly during the passage of the depressions, when on some days, such as the 24th, the mean temperature of most of the stations in the west and south-west of the province became from five to nearly nine degrees above the normal. The mean temperature for the whole province for the week has been 3.7° above the normal for the period; and while the excess has been fairly equally distributed, the excess temperatures have been largest in Behar and Chutia Nagpur, where they have equalled from four to four and-a-half degrees.

The actual temperatures during the week, the range from day to night, and their variations from the normal values, are best seen in the following table, where the average maximum, minimum and mean temperatures for the week at nine typical stations in different districts of the province are given, together with the normal values. In both day and night temperatures in all districts of the province it will be seen that temperatures have been decidedly high:—

*Table showing the excess or defect of the actual mean temperature from the normal for the week ending 24th January 1890.*

				Normal mean maximum temperature for the week ending 24th January.	Actual mean maximum temperature for the week ending 24th January 1890.	Variation of actual mean from the normal.	Normal mean minimum temperature for the week ending 24th January.	Actual mean minimum temperature for the week ending 24th January 1890.	Variation of actual mean from the normal.	Normal mean daily temperature for the week ending 24th January.	Actual mean daily temperature for the week ending 24th January 1890.	Variation of actual mean from the normal.
Calcutta	...	...	...	85.0	86.1	+1.1	69.8	61.7	+1.3	78.4	78.9	+1.5
Dacca	...	...	...	70.7	70.0	+3.3	50.3	47.7	+5.8	60.2	60.2	+3.4
Burdwan	...	...	...	70.8	70.8	+1.3	50.3	47.7	+5.1	60.6	60.7	+2.1
Patna	...	...	...	70.8	80.7	+1.3	40.3	50.3	+5.6	60.4	70.2	+3.8
Gya	...	...	...	70.9	80.0	+4.0	40.3	50.3	+5.1	61.3	66.2	+5.0
Rurneah	...	...	...	70.9	80.0	+4.0	40.3	50.3	+5.1	61.3	67.4	+5.0
Masrighah	...	...	...	70.9	75.3	+0.6	40.3	48.4	+4.2	61.4	63.9	+2.5
Darjeeling	...	...	...	60.0	77.3	+4.8	30.3	50.3	+5.1	61.5	60.7	+5.4
	...	...	...	60.0	63.5	+9.1	30.0	30.7	+1.7	30.3	44.5	+5.2

**Rainfall.**—The rainfall in East Bengal during the week has averaged almost half an inch, in North Bengal about a quarter of an inch, and in North Behar about a fifth of an inch. The falls in South-West Bengal only averaged a few hundredths of an inch, while in Orissa, Chutia Nagpur, and South Behar there was no rain. The districts receiving the largest amounts of rain were—in East Bengal, Furreedpur, Comillah, Mymensingh, and Dacca; in North Bengal, Jalpogorie, Kungpur, and Bogra; in North Behar, Champaran and Furreah; and in South-West Bengal, the Jessore and Khoolna districts.

The following table gives the summary of the temperature and rainfall data of each of the seven meteorological divisions of the province for the week ending Friday, the 24th of January 1890:—

METEOROLOGICAL DIVISIONS.	TEMPERATURE							RAINFALL.								
	Highest observed during week.	Lowest observed during week.	Averages for week.			Average mean of week above or below normal mean of week.	Of week.		Rainy days.		Since 1st of month.		Since 15th May 1889.			
			Of highest of each day.	Of lowest of each day.	Of mean for each day.		Average.	Normal average.	Variation.	Average number in week.	Normal average number in week.	Variation.	Average.	Normal average.	Average.	Normal average.
Orissa	86.9	53.3	82.6	57.6	73.0	+2.6	Nil	0.06	-0.06	0.0	0.3	-0.3	Nil	0.16	63.01	63.00
South-West Bengal	86.3	53.7	80.2	57.2	69.7	+3.7	0.94	0.10	-0.06	0.2	0.6	-0.1	0.04	0.20	58.51	61.20
East Bengal	81.3	54.0	78.0	57.8	67.9	+3.0	0.81	0.15	+0.30	0.9	0.8	+0.6	0.51	0.37	76.94	74.08
North Bengal	89.1	51.3	77.9	54.6	66.3	+3.3	0.87	0.16	+0.13	0.8	0.5	+0.3	0.29	0.26	72.41	70.17
North Behar	76.3	49.9	70.9	54.0	65.0	+6.1	0.19	0.17	+0.02	0.4	0.6	-0.2	0.19	0.20	67.85	68.83
South Behar	82.6	50.0	78.5	54.5	65.5	+4.5	0	0.17	-0.17	0	0.5	-0.5	0	0.40	64.16	65.76
Chutia Nagpur	83.0	54.5	77.5	54.5	66.0	+4.3	Nil	0.17	-0.17	0.0	0.5	-0.5	Nil	0.46	63.09	69.36

\* Chyabasso not included.

METEOROLOGICAL OFFICE, BENGAL;

A. PEDLER,

The 28th January 1890

Meteorological Reporter to the Govt. of Bengal.

Results of the Barometrical and Thermometrical Observations taken at the Meteorological Office, Chowringhee, from 19th to 25th January 1890.

MONTH.	Date.	Pressure at 10 A.M. corrected and reduced to 32 Fahr.	TEMPERATURE					HYGROMETRY.				Rainfall past 24 hours.
			Daily mean.	Maximum.	Range.	Minimum.	Dry bulb at 10 A.M.	Wet bulb at 10 A.M.	Vapour tension at 10 A.M.	Dew point at 10 A.M.	Humidity at 10 A.M.	
		Inches.	.	.	.	.	.	.	Inches.	.	%	Inches.
Jan. 1890	19th	29.963	71.5	82.9	22.8	60.1	74.6	60.4	65.8	60.8	77	...
	20th	29.956	72.3	79.9	15.2	64.7	79.1	62.6	66.6	60.6	81	...
	21st	29.941	69.1	77.9	17.6	60.3	70.6	66.1	66.2	63.2	74	...
	22nd	29.922	68.9	78.9	20.0	58.9	71.0	66.0	66.9	61.1	71	...
	23rd	29.935	70.2	81.4	22.5	58.9	73.6	65.6	62.5	60.3	63	...
	24th	29.974	73.5	83.9	18.8	64.1	76.4	70.6	67.2	67.4	74	...
	25th	29.915	70.3	76.9	18.2	63.7	68.4	66.0	67.5	62.8	83	1.02

The mean 10 A.M. pressure of the seven days ... 29.949

The mean temperature of the seven days ... 70.8

The extreme variation of temperature ... 24.0

The maximum temperature ... 82.9

The mean 10 A.M. relative humidity of the seven days ... 76%

The total fall of rain from 19th to 25th January 1890 ... 1.02

The daily mean temperatures are the crude means of maximum and minimum temperatures.

C. LITTLE,

For Meteorological Reporter to the Govt. of India.

METEOROLOGICAL OFFICE, INDIA;  
The 27th January 1890.

Results of the Meteorological Observations taken at the Alipore Observatory from  
19th to 25th January 1890.

Month.	Date.	Maximum in sun.	Number of hours of bright sunshine.	Mean pressure barometer at 32° Fahr.	TEMPERATURE.				HYGROMETRY.				WIND.		Rain.	WEATHER.
					Mean.	Maximum.	Range.	Minimum.	Mean wet bulb.	Vapour tension.	Dew point.	Humidity.	Prevailing direction.	Miles recorded.		
1890.		°		Inches.	°	°	°	°	°	Inches.	°	%			Inches.	
Jan.	19th	130.3	9.4	29.897	69.7	81.4	23.1	55.3	65.3	0.571	62.7	80	SW by S, SW and S by E.	96	Nil	Clear, $\Delta$ , $\equiv$ .
"	20th	131.0	6.5	29.854	70.0	79.0	14.7	64.3	66.5	0.592	63.7	79	S by E, NNW and variable.	89	"	Chiefly cloudy, o.
"	21st	132.4	8.8	29.909	68.4	76.4	16.1	60.3	63.7	0.529	60.6	77	NE, NNW and calm	62	"	Chiefly clear, $\Delta$ .
"	22nd	129.4	8.9	29.904	67.4	77.8	20.0	57.8	62.3	0.498	58.8	76	WNW and calm	35	"	Chiefly clear, $\Delta$ , $\equiv$ .
"	23rd	134.1	9.5	29.862	68.5	79.2	21.9	57.3	63.3	0.517	59.9	76	W, SW and calm	56	"	Clear, $\Delta$ , $\equiv$ .
"	24th	133.3	9.3	29.803	72.6	81.7	18.0	63.7	68.6	0.651	66.4	81	SSE, SSW and variable.	161	"	Chiefly clear, $\Delta$ .
"	25th	132.7	8.1	29.860	66.9	75.7	12.9	62.8	68.4	0.539	61.0	82	NNW and calm	79	0.77	Chiefly cloudy, o, p.

The mean pressure of the seven days ... 29.870

The average pressure of the corresponding period for 24 years, S.-G.'s Office ... 30.005

The total number of hours of bright sunshine ... 60.5

The maximum possible number of hours of sunshine ... 76.6

The mean temperature of the seven days ... 69.2

The average temperature of the corresponding period for 24 years, S.-G.'s Office ... 68.4

The extreme variation of temperature ... 24.4

The maximum temperature ... 81.7

The highest velocity of the wind in one hour ... 14

The highest pressure of wind on one square foot ... Not measurable.

The mean relative humidity ... 79

The average relative humidity of the corresponding period for 24 years, S.-G.'s Office ... 70

The total fall of rain from 19th to 25th January 1890 ... 0.77

The average fall of the corresponding period for 24 years, S.-G.'s Office ... 0.05

The total fall from 1st to 25th January 1890 ... 0.77

The average fall of the corresponding period for 24 years, S.-G.'s Office ... 0.19

The mean pressure, temperature, &c., are deduced from the traces of the Barograph and Thermograph and from observations made at 6h, 10h, 16h, and 22h.

The maximum and minimum temperatures are obtained from self-registering thermometers. All the thermometers are verified, and the readings have been corrected to a standard constructed and verified at the Kew Observatory. They are exposed under a thatched shed open at the sides, and are suspended four feet above the ground.

The barometer readings are corrected approximately to those of the standard, Newman's No. 86, formerly at the Surveyor-General's Office.

The hygrometric elements are obtained from Tables III, IV, and V of the official tables computed in the Meteorological Office, and based on Regnault's modifications of August's formula.

The directions and the movement of the wind are taken from the trace of a Beckley's anemograph.

The mouth of the rain-gauge is one foot above the ground.

o overcast, p passing temporary showers,  $\Delta$  dew;  $\equiv$  fog.

C. LITTLE,

For Meteorological Reporter to the Govt. of India.

METEOROLOGICAL OFFICE, GOVT. OF INDIA;

Calcutta, the 27th January 1890.

## MEMORANDUM.

BIRTHS and deaths were registered in the principal Municipalities in Bengal during the week ending 11th January 1890, at the rates, respectively, of 22·8 and 25·9 per 1,000 of population, against 25·8 and 23·7 per 1,000 during the preceding week ending 4th January, indicating a retrogression in the registration of births and an increase in that of deaths.

2. The highest proportions of births and deaths were returned from the following Municipalities :—

<i>Births.</i>				<i>Deaths.</i>			
			Ratio per mille.				Ratio per mille.
Chupra	...	...	42·3	Poori	...	...	58·7
Bali	...	...	42·1	Arrah	...	...	58·6
Arrah	...	...	38·3	Jessore	...	...	55·1
Rampore Beaulah	...	...	36·8	Darjiling	...	...	44·5
Midnapore	...	...	31·0	Chittagong	...	...	42·3
Comillah	...	...	30·8	Ranaghat	...	...	41·9
Durbhanga	...	...	30·7	Burdwan	...	...	39·7
Jessore	...	...	30·6	Comillah	...	...	38·3
				Hughli and Chinsurah	...	...	38·1
				Dacca	...	...	33·7

3. The specific diseases, as noted below, proved fatal at the rates exhibited opposite them :—

				Ratio per mille during the weeks ending—	
				11th January 1890.	4th January 1890.
Cholera	...	...	...	2·4	2·2
Small-pox	...	...	...	4	5
Fever	...	...	...	11·5	9·8
Bowel-complaints	...	...	...	3·1	3·6
Injury	...	...	...	4	2
Other causes	...	...	...	8·1	7·3

indicating chiefly, that the mortality from fever was higher during the week under notice than during the preceding week ending 4th January.

4. Of the diseases mentioned above, small-pox was noticeably severe in Poori town, there being seven deaths (mortality 14·7 per 1,000 of population), and bowel-complaints prevailed in Hughli and Chinsurah Municipality (mortality 14·7 per 1,000 population), while cholera, fever and the maladies coming under the head of "Other causes" were reported to have been notably fatal in the following Municipalities :—

<i>Cholera.</i>			<i>Fever.</i>			<i>Other causes.</i>		
		Ratio per mille.			Ratio per mille.			Ratio per mille.
Jessore	...	36·7	Arrah	...	49·0	Midnapore	...	23·2
Chittagong	...	9·4	Darjiling	...	44·5	Poori	...	18·9
Burdwan	...	9·2	Purneah	...	24·2	Dacca	...	14·9
Howrah	...	6·3	Rampore Beaulah	...	23·6	Durbhanga	...	12·6
Dacca	...	3·9	Chittagong	...	21·1	Bhagulpore	...	11·8
						Gya	...	10·2
						Chupra	...	10·1

5. The death-rates under the heads of *Sex*, *Class* and *Age* stood as follows :—

<i>According to Sex.</i>			<i>According to Class.</i>			<i>According to Age.</i>		
		Ratio per mille.			Ratio per mille.			Ratio per mille.
Males	...	30·4	Christians	...	14·9	Under 1 year	...	172·1
Females	...	21·2	Hindus	...	25·8	1 and under 5 years	...	24·2
Ratio of male deaths to every 100 female deaths, calculated on the proportion such mortality bears to the total male and female population	...	143	Mahomedans	...	26·5	5 " 10 "	...	18·7
			Budhists	...	25·7	10 " 15 "	...	9·7
			Other classes	...	76·8	15 " 20 "	...	14·1
						20 " 30 "	...	16·0
						30 " 40 "	...	23·7
						40 " 50 "	...	22·4
						50 " 60 "	...	32·9
						60 years and upwards	...	66·4

W. H. GREGG, *Dip. Publ. Health, Camb.,*  
Sanitary Commissioner for Bengal.

The 27th January 1890.



DISTRICTS.	NAMES OF MUNICIPALITIES.	POPULATION.			BIRTHS.			MORTALITY ACCORDING TO—												SEX.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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		Cholera.	Small-pox.	Typhoid.	Bowel-complaints.	Injury.	Other diseases.	All causes.	Cholera.	Small-pox.	Typhoid.	Bowel-complaints.	Injury.	Other diseases.	All causes.	Ratio of deaths per 1,000 of population per annum in the previous week.	Males.	Females.	Ratio of male deaths to every 100 female deaths.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
Burdwan	Burdwan	19,463	16,617	36,080	9	6	15	137	92	339	130	6	11	6	4	94	169	78	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...</

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OFFICE OF SANITARY COMMISSIONER FOR BENGAL.

77-2744-1-1890.

W. H. GREGG, Dip. Publ. Health, Camb.

## PUBLIC WORKS DEPARTMENT, IRRIGATION BRANCH, BENGAL.

## SOUTH-WESTERN CIRCLE.

## NUDDEA RIVERS.

Statement showing quantities of Goods carried during the month of November 1889.

Number of boats or rafts.	DESCRIPTION.	TOTAL GOVERNMENT AND PRIVATE.				PRIVATE.		REMARKS.
		Quantity—Tons.			Value.	Quantity.	Value.	
		Up.	Down.	Total.	Rupees.	Tons.	Rupees.	
01	1. Grain ...	349	4,217	4,606	2,75,726	4,606	2,75,726	
	2. Cotton ...	.....	.....	.....	.....	.....	.....	
01	3. Oilseeds ...	16	1,301	1,317	1,75,965	1,317	1,75,965	
07	4. Salt ...	3,895	.....	3,895	3,33,993	3,895	3,33,993	
	5. Piece-goods ...	.....	.....	.....	.....	.....	.....	
14	6. Metal ...	50	19	69	24,830	69	24,830	
25	7. Building materials ...	151	36	187	1,764	187	1,764	
39	8. Miscellaneous ...	2,210	7,063	9,273	13,74,310	9,273	13,74,310	
72	9. Fuel ...	734	101	835	10,425	835	10,425	
2 rafts	10. Timber ...	852 c. ft.	520 c. ft.	1,372 c. ft.	2,838	1,372 c. ft.	2,838	
6 "	11. Bamboos ...	93 "	1,600 "	1,693 "	169	1,693 "	169	
949 & 8 rafts.	12. Total ...	{ 7,448 & 945 c. ft.	{ 12,737 & 2,120 c. ft.	{ 20,185 & 3,065 c. ft.	{ 22,00,020	{ 20,185 & 3,065 c. ft.	{ 22,00,020	
228 & 4 rafts.	13. Total of same month last year	{ 5,689 & 166 c. ft.	{ 18,185 & 3,698 c. ft.	{ 23,874 & 3,864 c. ft.	{ 28,11,085	{ 23,874 & 3,864 c. ft.	{ 28,11,085	
		Up.	Down.	Total.			Rs. A. P.	
4.	Total number of boats ply- ing cargo No.	876	1,073	1,949	Total tollage of month— 24 + 25 + 26 ...		12,238 1 0	
4a.	Ditto empty boats, steamers, &c. No.	456	111	567	Total tollage of same month last year ...		13,321 1 6	
5.	Total number of boats ply- ing passenger No.	995	1,622	2,617	Memorandum of Tollage.			
5a.	Ditto empty boats "	61	24	85				
6.	Total registered tonnage, cargo Tons	17,726	26,817	44,543				
7.	Total registered tonnage, passenger Tons	447	335	782				
8.	Ton-mileage	.....	.....	.....				
9.	Estimated value of cargo Rs.	8,35,223	13,61,790	21,97,013	1. Balance not recovered on the 1st of the month ...	Rs. A. P. 480 2 6		
20.	Number of passengers No.	20,797	13,884	34,681	2. Tollage per month ...	12,238 1 0		
21.	Rafts, bamboos C. ft.	93	1,600	1,693	3. Total ...	12,718 3 6		
22.	Do., bullahs "	852	520	1,372	4. Amount paid into Treasury during the month ...	12,349 4 6		
23.	Estimated value of rafts Rs.	1,287	1,720	3,007	5. Balance due at the end of the month ...	368 15 0		
24.	Tollage on boats "	4,809-6-6	7,411-0-6	12,220-7-0				
25.	Compounded tollage on boats Rs.	.....	.....	.....				
26.	Tollage on rafts "	6-0-0	11-10-0	17-10-0				
27.	Total tollage on boats per ton-mile*	.....	.....	.....				
28.	Ditto on rafts per 100 cubic feet ... Rs.	.....	.....	0-9-3				

\* Boats in these rivers do not pay per mile.

Abstract for the month of November 1889 as compared with the corresponding month of the previous year.

	1889-90.		1888-89.	
	During the month.		During the month.	
	Ra. A. P.	Ra. A. P.	Ra. A. P.	Ra. A. P.
Tollage ...	12,238 1 0	1,46,101 3 9	13,321 1 6	1,54,153 5 2

CALCUTTA,  
The 28th January 1890.G. A. G. SHAW,.  
Under-Secy. to the Govt. of Bengal.

## PUBLIC WORKS DEPARTMENT, IRRIGATION BRANCH, BENGAL.

## SOUTH-WESTERN CIRCLE.

## ORISSA COAST CANAL SYSTEM.

LENGTH OF CANAL OPEN, 97½ MILES.

Statement showing quantities of Goods carried during the month of November 1889.

Number of boats or rafts.	DESCRIPTION.	TOTAL GOVERNMENT AND PRIVATE.				PRIVATE.		REMARKS.
		Quantity—Tons.			Value.	Quantity.	Value.	
		Up.	Down.	Total.		Tons.	Rupess.	
78	1. Grain ...	611	215	826	42,487	826	42,487	
...	2. Cotton ...	.....	.....	.....	.....	.....	.....	
7	3. Oilseeds ...	35	.....	35	3,040	35	3,040	
18	4. Salt ...	.....	140	140	16,915	140	16,915	
5	5. Piece-goods ...	.....	43	43	8,100	43	8,100	
2	6. Metal ...	.....	3	3	575	3	575	
14	7. Building materials ...	32	22	54	543	34	383	
516	8. Miscellaneous ...	466	322	788	1,01,805	788	1,01,775	
8	9. Fuel ...	.....	81	81	606	81	606	
16 rafts	10. Timber ...	1,977 c. ft.	.....	1,977 c. ft.	1,335	1,977 c. ft.	1,335	
32 "	11. Bamboos ...	1,300 "	.....	1,300 "	141	1,300 "	141	
64½ & 48 rafts.	12. Total ...	{ 1,144 & 3,277 c. ft.	826	{ 1,970 & 3,277 c. ft.	{ 1,75,547	{ 1,950 & 3,277 c. ft.	{ 1,75,357	
836 & 46 rafts.	13. Total of same month last year	{ 2,053 & 2,927 c. ft.	463 & 237 c. ft.	{ 2,516 & 3,164 c. ft.	{ 1,54,036	{ 2,516 & 3,164 c. ft.	{ 1,54,036	
14. Total number of boats plying cargo	No.	340	308	648	Total tollage of month—24+25+26		Rs. A. P.	
15. Total number of boats plying passenger	No.	78	78	156	Total tollage of same month last year		Rs. A. P.	
16. Total registered tonnage, cargo	Tons	2,698	2,364	5,062	Memorandum of Tollage.			
17. Total registered tonnage, passenger	Tons	795	787	1,582				
18. Ton-mileage	...	116,000	119,161	235,161				
19. Estimated value of cargo	Rs.	79,528	94,543	1,74,071				
20. Number of passengers	No.	1,485	1,861	3,346				
21. Rafts, bamboos	C. ft.	1,300	.....	1,300	1. Balance not recovered on the 1st of the month	Rs. A. P.		
22. Do., bullahs	"	1,977	.....	1,977	2. Tollage per month	Rs. A. P.		
23. Estimated value of rafts	Rs.	1,476	.....	1,476	3. Total	Rs. A. P.		
24. Tollage on boats	"	2,036-2-3	2,092-1-6	4,128-3-9	4. Amount paid into Treasury during the month	Rs. A. P.		
25. Compounded tollage on boats	Rs.	.....	4-8-0	4-8-0	5. Balance due at the end of the month	Rs. A. P.		
26. Tollage on rafts	"	75-12-0	.....	75-12-0				
27. Total tollage on boats per ton-mile	Rs.	.....	.....	0-0-3-3				
28. Ditto on rafts per 100 cubic feet	Rs.	.....	.....	2-4-11				

Abstract for the month of November 1889 as compared with the corresponding month of the previous year.

	1889-90.		1888-89.	
	During the month.		During the month.	
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Tollage ...	4,206 7 9	37,829 0 6	3,647 14 6	42,143 4 0

CALCUTTA,  
The 28th January 1890.G. A. G. SHAW, N.  
Under-Secy. to the Govt. of Bengal.

## CIRCULAR AND EASTERN CANALS.

*Approximate Return of Traffic for the week ending Saturday, the 25th January 1890,  
as compared with the corresponding week of the previous year.*

NATURE OF CARGO.	WEEK ENDING SATURDAY, THE 25TH JANUARY 1890.			WEEK ENDING SATURDAY, THE 30TH JANUARY 1889.		
	Number of boats.	Weight of cargo.	Tollage.	Number of boats.	Weight of cargo.	Tollage.
	No.	Mds.	Rs.	No.	Mds.	Rs.
Rice and paddy	1,774	3,14,270	5,443	1,803	5,06,175	8,984
Jute	148	1,08,583	2,096	142	97,075	1,786
Firewood	72	47,300	720	125	61,400	878
Other articles	937	2,09,805	3,186	1,244	2,53,510	3,715
Total	2,971	6,77,458	11,885	3,314	9,18,160	15,312

## Nalhati State Railway.

*Statement showing increases and decreases in tonnage of Staples carried over the Nalhati State  
Railway during the month of December 1889, as compared with the same month of the previous year.*

STAPLES.	1889.		1890.		Total.		Increase.	Decrease.
	Up.	Down.	Up.	Down.	1889.	1890.		
Coal	Tons. 698	Tons. 25	Tons. 807	Tons. 6	Tons. 698	Tons. 607	Tons. 165	Tons. 19
Cotton, raw	25	1	6	1	25	6	19	1
Cotton twist and yarn—								
1.—European	1	1	1	1	2	2	2	2
Cotton piece-goods—								
1.—European	67	1	55	1	46	55	7	1
Dyes and tans—								
1.—Indigo	2	2	2	2	2	2	3	1
Grains—								
1.—Wheat	1	1	1	1	1	1	1	1
2.—Rice	1	766	63	1,071	74	1,133	386	31
3.—Others	21	57	29	18	16	78	47	31
Hides and skins—								
1.—Hides of cattle—								
a.—Dressed	7	7	7	7	7	7	7	7
b.—Undressed	1	1	1	1	1	1	1	1
2.—Skins of sheep, goats and small animal—								
a.—Dressed	1	1	1	1	1	1	1	1
Jute—								
1.—Raw	37	37	126	57	57	163	101	16
2.—Gunny bags and cloths	20	2	33	3	23	35	12	3
Leather, manufactured	8	8	8	8	8	8	8	8
Metals—								
1.—Iron	29	10	10	29	29	10	19	19
2.—Others	3	7	7	2	16	9	7	7
Oil—								
1.—Castor	1	1	1	1	1	1	1	1
2.—Kerosine	1	1	1	1	1	1	1	1
3.—Others	13	13	13	13	13	13	13	13
Oilseeds—								
1.—Linseed	16	16	16	16	16	16	16	16
2.—Mustard and rape	20	20	20	20	20	20	20	20
3.—Til or gingelly	2	2	2	2	2	2	2	2
4.—Others	2	2	2	2	2	2	2	2
Provisions—								
1.—Ghee	7	7	7	7	7	7	7	7
2.—Dried fruits and nuts	68	68	68	68	68	68	68	68
3.—Others	2	2	2	2	2	2	2	2
Railway plant and rolling-stock	28	27	27	28	28	27	1	1
Salt	28	27	27	28	28	27	1	1
Silk, raw—								
1.—Indian	2	7	20	8	9	37	28	28
Silk piece-goods—								
1.—Indian	6	6	9	4	5	4	1	1
Stone and lime	3	3	3	3	3	3	3	3
Sugar—								
1.—Drained	19	18	18	19	19	18	1	1
2.—Undrained	4	85	85	4	4	85	81	4
Tobacco	1	1	1	1	1	1	1	1
Timber	1	1	1	1	1	1	1	1
All other articles of merchandise	10	15	65	73	74	117	43	43
Total	1,141	637	1,083	1,323	2,078	2,410	332	332

## INCREASE.

Cotton piece-goods—  
(1) European  
This increase is due to steamer service between Seagang and Calcutta being stopped for want of sufficient water.  
Grains—  
(2) Rice  
This increase is due to greater export owing to high market rate at Calcutta.  
Jute—  
(1) Raw  
This increase is due to greater export owing to high rate in some parts of Hooghly district.

## Tons.

7

386

101



	Tons.
(2) Gunny-bags and cloths	16
This increase is due to the import of gunny-bags for export of rice.	
Oilseeds—	
(3) Til or gingelly	7
This increase is due to there being no traffic under this head last year.	
Silk, raw—	
(3) Indian	23
This increase is due to import of tussur silk cocoons from Raniganj district.	
Sugar—	
(3) Undrained	81
This increase is due to greater import owing to high rate at Asimganj.	
<b>DECREASE.</b>	
Coal	145
This decrease is due to less import owing to previous stock not being exhausted.	
Cotton, raw	19
This decrease is due to previous stock not being exhausted.	
Grains—	
(4) Others	31
This decrease is due to failure of khollye crops this year.	
Hides and skins—	
(1) Hides of cattle—	
(a) Dressed	7
This decrease is due to non-carriage of such articles this year.	
Metals—	
(2) Iron	19
This decrease is due to less demand this year.	
Oilseeds—	
(1) Linseed	16
This decrease is due to non-export this year owing to high rate at Asimganj	
(2) Mustard and rape	70
This decrease is due to less import owing to local dull market rate.	
Salt	11
The decrease is due to import by boat in previous months.	
Tobacco	6
The decrease is due to non-carriage this year.	

R. G. MOOKERJEE,  
Manager, Nalhati State Railway.

### Weekly Return of Traffic Receipts on Indian Railways.

#### EAST INDIAN RAILWAY.

Approximate Return of Traffic for week ended 18th January 1890, on 1,526½ miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated).	Total earnings.	TRAFFIC TRASH-MILES R.F.		
	Number of passengers.	Receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. S.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the week ...	773,393	2,10,810 13 0	22,94,461 0	5,73,194 10 0	19,799 0 0	9,09,440 1 0	65,762	80,444	146,206
Or per mile of railway ...	507 7 0			375 11 2		596 3 0			
For previous 3 weeks of half-year ...	261,717	4,14,729 7 0	42,80,825 29	9,80,400 2 0	20,863 8 0	14,07,873 1 0	100,434	148,313	248,747
Total for 3 weeks ...	634,978	7,29,558 3 0	65,47,006 29	15,23,594 13 0	50,674 0 0	22,17,213 2 0	100,115	220,807	400,170
<b>COMPARISON.</b>									
Total for corresponding week of previous year ...	547,347	3,82,500 14 4	37,32,400 0	5,09,400 9 5	14,807 10 1	9,08,513 7 1	68,271	88,942	140,213
Per mile of railway corresponding week of previous year ...	359 11 10			329 4 0		596 3 4			
Total to corresponding date of previous year ...	632,164	7,23,877 10 10	70,30,382 20	16,92,573 13 2	41,400 4 0	24,87,800 13 7	177,815	273,500	451,315

\* The increase in coaching traffic is principally due to the "Mugh Main" held at Allahabad.

Approximate Statement of gross receipts of the East Indian Railway, prepared in accordance with Public Works Department Circular No. XXI, Railway, dated 23rd July 1888.

RECEIPTS FOR WEEK ENDING 18th JANUARY 1890.			RECEIPTS FOR WEEK ENDING 18th JANUARY 1890.			TOTAL RECEIPTS FROM 1st APRIL 1889 TO 15th JANUARY 1890.			TOTAL RECEIPTS FROM 1st APRIL 1889 TO 15th JANUARY 1890.			Total (Increase in 1890).	Total (Decrease in 1890).
Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Total receipts.	Per mile worked per week.	Mean mileage worked.	Total receipts.	Per mile worked per week.		
	Rs.	Rs.		Rs.	Rs.		Rs.	Rs.		Rs.	Rs.	Rs.	Rs.
1,526½	9,09,440	596	1,526½	9,09,440	596	1,526½	2,00,87,004	507	1,526½	2,00,87,000	506		100,200

## PATNA-GYA STATE RAILWAY.

Approximate Return of Traffic for week ended 18th January 1890, on 67½ miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated).	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. c.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the week ...	12,030	6,580 10 0	32,767 0	2,207 5 0	53 0 0	8,640 15 0	1,718	1,243	2,960
Or per mile of railway ...	2104	111 11 4	573 0	33 9 5	0 14 6	161 3 3	.....	.....	.....
For previous 3 weeks of half-year ...	21,710	11,145 9 0	53,625 20	5,661 13 0	72 13 0	14,680 3 0	2,740	1,816	3,762
Total for 3 weeks ...	33,740	17,626 3 0	86,392 20	8,869 2 0	124 13 0	23,620 2 0	4,458	2,855	6,723
COMPARISON.									
Total for corresponding week of previous year ...	11,937	6,328 14 10	25,657 20	1,832 5 0	33 0 0	8,244 3 10	1,930	658	2,396
Per mile of railway corresponding week of previous year ...	209	110 10 4	447 0	32 14 0	0 9 3	144 2 1	.....	.....	.....
Total to corresponding date of previous year ...	34,408	18,314 1 10	70,292 0	4,819 8 0	162 2 2	23,235 12 7	5,162	1,836	6,498

Approximate Statement of gross receipts of the Patna-Gya State Railway, prepared in accordance with Public Works Department Circular No. XXI, Railway, dated 23rd July 1883.

RECEIPTS FOR WEEK ENDING 19TH JANUARY 1889.			RECEIPTS FOR WEEK ENDING 18TH JANUARY 1890.			TOTAL RECEIPTS FROM 1ST APRIL 1889 TO 19TH JANUARY 1889.			TOTAL RECEIPTS FROM 1ST APRIL 1889 TO 18TH JANUARY 1890.			Total increase in 1890.	Total decrease in 1890.
Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Total receipts.	Per mile worked per week.	Mean mileage worked.	Total receipts.	Per mile worked per week.		
	Rs.	Rs.		Rs.	Rs.		Rs.	Rs.		Rs.	Rs.	Rs.	Rs.
67½	8,244	144	67½	8,640	151	67½	8,91,994	163	67½	4,05,960	169	15,960	.....

## TARKESSUR BRANCH RAILWAY.

Approximate Return of Traffic for week ended 18th January 1890, on 22½ miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated).	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. c.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the week ...	19,878	4,834 12 0	10,374 10	375 1 0	5 4 9	5,212 1 0	902	90	998
Or per mile of railway ...	.....	217 0 4	.....	10 13 9	0 5 11	234 4 0	.....	.....	.....
For previous 3 weeks of half-year ...	28,632	7,334 11 0	17,311 0	723 3 0	10 8 0	8,067 6 0	1,410	99	1,643
Total for 3 weeks ...	48,510	12,168 7 0	27,685 10	1,097 4 0	14 13 0	13,279 7 0	2,321	163	2,486
COMPARISON.									
Total for corresponding week of previous year ...	19,791	4,837 13 9	11,216 0	363 9 0	3 1 0	5,254 8 0	896	72	968
Per mile of railway corresponding week of previous year ...	.....	219 10 10	.....	14 5 5	0 2 3	236 2 6	.....	.....	.....
Total to corresponding date of previous year ...	54,984	12,633 5 0	26,302 20	807 8 0	14 3 9	13,510 9 9	2,434	184	2,618

Approximate Statement of gross receipts of the Tarkessur Branch Railway, prepared in accordance with Public Works Department Circular No. XXI, Railway, dated 23rd July 1883.

RECEIPTS FOR WEEK ENDING 19TH JANUARY 1889.			RECEIPTS FOR WEEK ENDING 18TH JANUARY 1890.			TOTAL RECEIPTS FROM 1ST APRIL 1889 TO 19TH JANUARY 1889.			TOTAL RECEIPTS FROM 1ST APRIL 1889 TO 18TH JANUARY 1890.			Total increase in 1890.	Total decrease in 1890.
Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Total receipts.	Per mile worked per week.	Mean mileage worked.	Total receipts.	Per mile worked per week.		
	Rs.	Rs.		Rs.	Rs.		Rs.	Rs.		Rs.	Rs.	Rs.	Rs.
22½	5,254	236	22½	5,313	234	22½	2,20,363	230	22½	2,17,276	232	.....	2,118

## EASTERN BENGAL STATE RAILWAY.

(INCLUDING N. B., DACCA, K. AND D., AND ASSAM-BRMAH SECTIONS.)

Approximate Return of Traffic for first 11 days of January 1890, on 747 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated), including steam-boat.	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. s.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for first 11 days ...	270,740	1,18,250 0 0	9,71,200 0	2,36,940 0 0	20,810 0 0	3,81,060 0 0	56,369	56,789	113,158
Or per mile of railway ...	181	79 0 0	650 0	108 0 0	8 0 0	248 0 0	...	...	...
For previous weeks of half-year ...	...	...	...	...	...	...	...	...	...
Total for 3 weeks ...	270,740	1,18,250 0 0	9,71,200 0	2,36,940 0 0	20,810 0 0	3,81,060 0 0	56,369	56,789	113,158
COMPARISON.									
Total for corresponding 12 days of previous year ...	267,893	1,09,777 0 0	8,22,403 0	1,98,395 0 0	20,053 0 0	3,34,225 0 0	57,126	55,130	112,256
Per mile of railway corresponding period of previous year ...	182	82 0 0	611 0	147 0 0	8 0 0	233 0 0	...	...	...
Total to corresponding date of previous year ...	267,893	1,09,777 0 0	8,22,403 0	1,98,395 0 0	20,053 0 0	3,34,225 0 0	57,126	55,130	112,256

\* Excluding steamer earnings.

## FINANCIAL YEAR.

Approximate Statement of gross receipts of the Eastern Bengal State Railway.

RECEIPTS FOR FIRST 12 DAYS OF JANUARY 1889.			RECEIPTS FOR FIRST 11 DAYS OF JANUARY 1890.			TOTAL RECEIPTS FROM 1ST APRIL 1889 TO 11TH JANUARY 1890.			TOTAL RECEIPTS FROM 1ST APRIL 1889 TO 11TH JANUARY 1890.			Total increase in 1889-90.	Total decrease in 1889-90.
Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Total receipts.	Per mile worked per week.	Mean mileage worked.	Total receipts.	Per mile worked per week.	Rs.	Rs.
673	Rs. 3,31,225	248	747	Rs. 3,81,060	256	673	Rs. 85,70,614	311	733	Rs. 90,20,143	304	Rs. 4,48,918	...

\* Audited up to week ending 23rd November 1889.

## BENGAL CENTRAL RAILWAY.

Approximate Return of Traffic for first 11 days of January 1890, on 125 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated).	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. s.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for first 11 days ...	48,450	16,840 0 0	67,350 0	4,830 0 0	130 0 0	21,300 0 0	5,570	8,044	13,614
Or per mile of railway ...	194	67 0 0	269 0	17 0 0	1 0 0	83 0 0	...	...	...
For previous weeks of half-year ...	...	...	...	...	...	...	...	...	...
Total for 3 weeks ...	48,450	16,840 0 0	67,350 0	4,830 0 0	130 0 0	21,300 0 0	5,570	8,044	13,614
COMPARISON.									
Total for corresponding 12 days of previous year ...	46,217	15,433 0 0	75,770 0	3,700 0 0	2,450 0 0	21,583 0 0	6,423	8,190	14,613
Per mile of railway corresponding period of previous year ...	185	61 0 0	305 0	15 0 0	10 0 0	86 0 0	...	...	...
Total to corresponding date of previous year ...	46,217	15,433 0 0	75,770 0	3,700 0 0	2,450 0 0	21,583 0 0	6,423	8,190	14,613

## FINANCIAL YEAR.

Approximate Statement of gross receipts of the Bengal Central Railway.

RECEIPTS FOR FIRST 12 DAYS OF JANUARY 1889.			RECEIPTS FOR FIRST 11 DAYS OF JANUARY 1890.			TOTAL RECEIPTS FROM 1ST APRIL 1889 TO 11TH JANUARY 1890.			TOTAL RECEIPTS FROM 1ST APRIL 1889 TO 11TH JANUARY 1890.			Total increase in 1889-90.	Total decrease in 1889-90.
Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Total receipts.	Per mile worked per week.	Mean mileage worked.	Total receipts.	Per mile worked per week.	Rs.	Rs.
125	Rs. 21,583	96	122	Rs. 21,300	88	125	Rs. 5,67,739	111	125	Rs. 5,53,777	116	Rs. 20,020	...

\* Audited up to week ending 23rd November 1889.

## DACCA STATE RAILWAY.

Approximate Return of Traffic for first 11 days of January 1890, on 86 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated).	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. S.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for first 11 days on per mile of railway	29,270	11,290 0 0	27,649 0	5,740 0 0	500 0 0	17,530 0 0	4,038	1,058	5,126
For previous weeks of half-year	170	66 0 0	335 0	33 0 0	3 0 0	102 0 0	.....	.....	.....
Total for 2 weeks	29,270	11,290 0 0	27,649 0	5,740 0 0	500 0 0	17,530 0 0	4,038	1,058	5,126
COMPARISON.									
Total for corresponding 12 days of previous year	27,513	8,186 0 0	11,913 0	1,315 0 0	270 0 0	9,747 0 0	4,284	1,070	5,354
Per mile of railway corresponding period of previous year	159	47 0 0	69 0	8 0 0	2 0 0	57 0 0	.....	.....	.....
Total to corresponding date of previous year	27,513	8,186 0 0	11,913 0	1,315 0 0	270 0 0	9,747 0 0	4,284	1,070	5,354

## FINANCIAL YEAR.

Approximate Statement of gross receipts of the Dacca State Railway.

RECEIPTS FOR FIRST 12 DAYS OF JANUARY 1890.			RECEIPTS FOR FIRST 11 DAYS OF JANUARY 1890.			TOTAL RECEIPTS FROM 1ST APRIL 1889 TO 15TH JANUARY 1890.			TOTAL RECEIPTS FROM 1ST APRIL 1889 TO 15TH JANUARY 1890.			Total increase in 1889-90.	Total decrease in 1889-90.
Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Total receipts.	Per mile worked.	Mean mileage worked.	Total receipts.	Per mile worked.	Rs.	Rs.
	Rs.	Rs.		Rs.	Rs.		Rs.	Rs.		Rs.	Rs.	Rs.	Rs.
86	9,747	57	86	17,530	102	86	2,38,221	66	86	2,38,221	66	27,513	.....

\* Audited up to week ending 23rd November 1889.

## NALHATI STATE RAILWAY.

Approximate Return of Traffic for the week ending 18th January 1890, on 27½ miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated).	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. S.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the week	3,198	1,050 0 0	18,181 0	1,195 0 0	13 0 0	2,198 0 0	569	234	703
Or per mile of railway	116	39 0 0	697 0	41 0 0	.....	80 0 0	.....	.....	.....
For previous one week of half-year	4,253	1,042 0 0	29,324 0	1,684 0 0	31 0 0	3,357 0 0	800	389	1,199
Total for 2 weeks	7,719	2,092 0 0	47,505 0	2,789 0 0	44 0 0	5,555 0 0	1,369	653	1,902
COMPARISON.									
Total for corresponding week of previous year	3,800	1,273 0 0	16,657 0	839 0 0	17 0 0	2,129 0 0	609	605	1,114
Per mile of railway corresponding week of previous year	123	46 0 0	619 0	31 0 0	1 0 0	73 0 0	.....	.....	.....
Total to corresponding date of previous year	8,553	3,186 0 0	41,388 0	2,105 0 0	39 0 0	5,339 0 0	1,381	1,367	2,748

## FINANCIAL YEAR.

Approximate Statement of gross receipts of the Nalhati State Railway.

RECEIPTS FOR WEEK ENDING 19TH JANUARY 1890.			RECEIPTS FOR WEEK ENDING 18TH JANUARY 1890.			TOTAL RECEIPTS FROM 1ST APRIL 1889 TO 18TH JANUARY 1890.			TOTAL RECEIPTS FROM 1ST APRIL 1889 TO 18TH JANUARY 1890.			Total increase in 1889-90.	Total decrease in 1889-90.
Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Total receipts.	Per mile worked.	Mean mileage worked.	Total receipts.	Per mile worked.	Rs.	Rs.
	Rs.	Rs.		Rs.	Rs.		Rs.	Rs.		Rs.	Rs.	Rs.	Rs.
27½	2,129	76	27½	2,105	80	27½	80,571	74	27½	80,571	74	.....	828

## TIRHOOT STATE RAILWAY.

Approximate Return of Traffic for the week ending 18th January 1890, on 273 miles open.

	COACHING TRAFFIC.		MERCHANTS AND MINERAL TRAFFIC.		Other earnings (estimated).	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. c.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the week ...	48,031	24,227 0 0	2,74,434 0	23,571 0 0	5,124 0 0	28,695 0 0	6,635	6,752	13,386
Or per mile of railway ...	168	89 0 0	823 0	86 0 0	19 0 0	173 0 0	.....	.....	.....
For previous one week of half-year ...	89,366	28,612 0 0	3,42,046 0	30,248 0 0	7,438 0 0	78,296 0 0	8,437	12,038	20,475
Total for 2 weeks ...	137,397	52,839 0 0	6,16,480 0	53,819 0 0	12,562 0 0	1,06,991 0 0	15,072	20,430	35,502
COMPARISON.									
Total for corresponding period of previous year ...	40,847	14,795 0 0	1,37,990 0	12,816 0 0	4,123 0 0	31,744 0 0	5,257	5,631	10,888
Per mile of railway corresponding week of previous year ...	149	54 0 0	508 0	47 0 0	15 0 0	107 0 0	.....	.....	.....
Total to corresponding date of previous year ...	103,654	37,865 0 0	2,64,760 0	28,930 0 0	8,091 0 0	78,886 0 0	14,453	14,711	29,164

\* Steam-boat earnings excluded in calculating "Total earnings per mile of Railway."

## FINANCIAL YEAR.

Approximate Statement of gross receipts of the Tirhoot State Railway.

RECEIPTS FOR WEEK ENDING 19TH JANUARY 1889.			RECEIPTS FOR WEEK ENDING 18TH JANUARY 1890.			TOTAL RECEIPTS FROM 1ST APRIL 1888 TO 19TH JANUARY 1889.			TOTAL RECEIPTS FROM 1ST APRIL 1889 TO 18TH JANUARY 1890.			Total increase in 1889-90.	Total decrease in 1889-90.
Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Total receipts.	Per mile worked per week.	Mean mileage worked.	Total receipts.	Per mile worked per week.	Rs.	Rs.
226	Rs. 61,744	Rs. 116	273	Rs. 82,963	Rs. 194	264.29	Rs. 12,25,309	Rs. 126	273	Rs. 16,11,709	Rs. 147	Rs. 2,03,930	.....





# SUPPLEMENT TO The Calcutta Gazette.

WEDNESDAY, FEBRUARY 5, 1890.

## OFFICIAL PAPERS.

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*Abstract of the Proceedings of the Council of the Lieutenant-Governor of Bengal, assembled for the purpose of making Laws and Regulations under the provisions of the Act of Parliament 24 and 25 Vic., Cap. 67.*

THE Council met at the Council Chamber on Saturday, the 1st February, 1890.

### Present:

The HON'BLE SIR STEUART COLVIN BAYLEY, K.C.S.I., C.I.E., Lieutenant-Governor of Bengal, *presiding*.  
 The HON'BLE SIR CHARLES PAUL, K.C.I.E., *Advocate-General*.  
 The HON'BLE F. B. PEACOCK.  
 The HON'BLE P. NOLAN.  
 The HON'BLE T. T. ALLEN.  
 The HON'BLE SIR HENRY HARRISON, Kt.  
 The HON'BLE SIR ALFRED CROFT, K.C.I.E.  
 The HON'BLE DR. MAHENDRA LAL SIRCAR, C.I.E.  
 The HON'BLE C. H. MOORE.  
 The HON'BLE H. PRATT.  
 The HON'BLE SHAHZADA MAHOMMED FURROKH SHAH.  
 The HON'BLE DR. RASH BEHARY GHOSE.  
 The HON'BLE RAJA RAMESHWAR SING BAHADUR.

## BENGAL VACCINATION BILL.

THE Hon'ble SIR HENRY HARRISON moved that the Report of the Select Committee on the Bill to amend the Bengal Vaccination Act, 1880, and Act II, 1887, be taken into consideration in order to the settlement of the clauses of the Bill.

The Motion was put and agreed to.

The Hon'ble SIR HENRY HARRISON also moved that the clauses of the Bill be considered for settlement in the form recommended by the Select Committee.

He said:—"I have explained the object of the Bill at a previous meeting, and it is therefore not necessary for me to say anything further on this occasion."

The Motion was put and agreed to.

The Hon'ble SIR HENRY HARRISON also moved that the Bill, as amended, be passed.

The Motion was put and agreed to.

## CALCUTTA PORT BILL.

HIS Honour the PRESIDENT said:—"Before adjourning the Council, I think I owe a few words to it in explanation of the omission from the list of business of the Ports Bill which had been originally entered in the list of business for discussion to-day.

"You will recollect that a fortnight ago we adjourned without considering it, in order that the Chamber of Commerce might have an opportunity of submitting a memorial, which we understood was in the course of preparation for our consideration.

"On Wednesday last, my friend, the Hon'ble Mr. Moore, told me he was afraid he would have to ask for another postponement in consequence of the absence of the Chamber's legal adviser. I asked him to see if the postponement could not be avoided, but I heard from him yesterday that he had been unable to get the memorial considered in time for us to take it up to-day, and he again asked for an adjournment. Upon that I took it on myself to exclude the motion from the list of business for to-day.

"Since then (yesterday) I received an application, which I think is in your hands, from the Secretary of the British Indian Association, which requests us that we will postpone for a fortnight the consideration of the Select Committee's report in view of the Committee laying before the Council some further representation regarding section 85.

"I may add that the Secretary says 'that the question of title in riverbanks having been treated by the Select Committee as one of general application, my Committee venture to hope that His Honour the Lieutenant-Governor will be pleased to recognize its importance by granting their prayer.'

"On this occasion I am very glad that we are able to meet their wishes without adding to the inconvenience of the Council, but I think I must protest against a body of the importance of the British Indian Association addressing us two days before the Bill is down for final consideration, asking us to postpone that consideration with reference to a point which has been discussed in all the newspapers since the issue of the report of the Select Committee which has been before them for five whole weeks, and regarding a section which has been the law of the land, with a slight alteration, for the last twenty years. I think it would be more respectful to the Council, and more conducive to public business, if they would take matters of that kind into their consideration a little earlier before the date of actual discussion in Council.

"On this occasion, as I said, I am very glad to be able to meet their wishes, but I do hope that, on Saturday fortnight, to which I propose to adjourn the Council, this Port Bill may be brought up for discussion and settlement."

The Council adjourned to Saturday, the 15th February, 1890.

CALCUTTA;

The 3rd February, 1890. }

O. H. REILY,

Assistant Secretary to the Govt. of Bengal,  
Legislative Department.

EXTENSION OF THE BENGAL TENANCY ACT TO ORISSA.

REVENUE DEPARTMENT—LAND REVENUE.

*Calcutta, the 24th January, 1890.*

RESOLUTION.

READ—

A letter from the Commissioner of Orissa, No. 1850, dated 4th November, 1886, on the subject of the extension of the Bengal Tenancy Act to that Division.

A letter from the Board of Revenue, No. 975A, dated 17th December, 1889, with enclosures, regarding the arrangements to be made for the survey and settlement of Orissa.

THE Collector of Balasore recommended in 1885 that the Lieutenant-Governor should, in the exercise of the power vested in him by section 1, immediately extend the Bengal Tenancy Act of that year to Orissa. The proposal received no local support at the time, and was considered premature by this Government; but it has since been renewed in connexion with the survey and settlement of the Division which is now being taken in hand. The Director of the Department of Agriculture and Land Records has represented that the settlement laws now in force in Orissa, that is to say, Regulation VII of 1822 and Bengal Act VIII of 1879, read with Act X of 1859, do not supply an adequate machinery for adjusting rents, inasmuch as they do not require the ryots to question the Settlement Officer's proceedings till the record is completed, and that the procedure which they established has proved practically unworkable where it has been contested. He observes—

“In proceedings under Chapter X of the Tenancy Act, the case is otherwise. The Settlement Officer's decision has the force of a decree; it must be appealed against within 30 days of the date of the order, and the appeal lies to the superior court of a Special Judge. Settlement proceedings under Chapter X of the Tenancy Act have therefore a sanction and finality which do not attach to proceedings under Act VIII of 1879. Moreover, experience has shown that proceedings under Chapter X of the Tenancy Act, besides being final, can be worked harmoniously and satisfactorily. It appears to me, therefore, that Chapter X of the Tenancy Act should be extended to those portions of Orissa which are from time to time brought under survey.

“The extension of Chapter X to any particular area involves also the extension of the sections of the Act relating to the determination of the status of tenants and to the enhancement and reduction of rent, i.e. sections 19 to 38. As a record of rights will have to be made and fair rents settled under Chapter X, it is evident that the rules for determination of the status of tenants and determination of fair rents prescribed in the Act must also be followed.”

There is also some reason to believe that if the most important portion of the Act is extended to Orissa, it will be convenient to introduce the law in its entirety. It is a question, however, whether the provisions as to preparing price-lists (section 39) and as to the payment of landlords' fees on transfers of tenures (sections 12 and 13) should not be excluded. The provisions as to judicial procedure and sales on decree (Chapters XIII and XIV) may, moreover, be found unsuitable to a province in which rent suits are still tried by Revenue officers.

2. The opinion of the Board and of the Revenue officers employed in Orissa is awaited on the subject; and, as the matter is of considerable public importance, the Lieutenant-Governor will be glad to receive any expression of opinion which may be offered by those interested. Such opinions should be transmitted to this Government before the 15th of April next.

ORDER.—Ordered that this Resolution be published in the *Calcutta Gazette* for the information of the public.

By order of the Lieutenant-Governor of Bengal,

P. NOLAN,  
*Secretary to the Govt of Bengal.*

## THE CANAL REVENUE REPORTS FOR 1888-89.

No. 198 I.A.

Government of Bengal.

PUBLIC WORKS DEPARTMENT.

Irrigation.

Dated Calcutta, the 3rd February 1890.

## RESOLUTION.

READ—

The Canal Revenue Reports for 1888-89, and Chief Engineer's Note on same.

The outlay, direct and indirect, on canals in Bengal, for which capital accounts are kept, amounted at the close of the year 1888-89 to Rs. 7,15,56,843. Of this sum Rs. 6,05,42,061 is the amount spent on Major Irrigation Works and charged to Loan Funds; while the expenditure on Minor Works was Rs. 1,10,14,782, of which Rs. 93,75,327 was provided from Provincial revenues, Rs. 8,66,000 was the grant contributed by the Imperial Government from Famine Relief and Insurance Funds in aid of the construction of the Orissa Coast Canal, and Rs. 7,73,455, representing expenditure on surveys and investigations for irrigation works which have not been carried out, was provided from Imperial revenues, but is not now chargeable with interest.

On Major Works the capital outlay during the year was Rs. 7,92,776, of which Rs. 6,38,718 represents the progress made with the revised project for the Orissa Canals, and Rs. 1,51,340, the expenditure on the Sone system; that on Minor Works was Rs. 1,49,475, of which Rs. 1,01,306 was spent on the Orissa Coast Canal, now nearly completed and open to traffic throughout its length, and Rs. 47,862 on the Circular and Eastern Canals.

2. The length of the canals in Bengal now in operation is altogether 864 miles, of which 621 miles are navigable. The area which, in their present state of completion, they are capable of irrigating is 1,422,319 acres, and the area actually irrigated in 1888-89 was 574,216 acres, the crops raised on which are valued at Rs. 1,61,10,045.

The traffic is represented by 195,140 boats which plied on the canals with passengers or cargo, and measured 3,747,300 tons. These figures do not include the traffic on the Nuddea rivers, which were brought under the management of the Public Works Department at the commencement of the year. On these rivers the boats which paid toll were 48,224 in number, and were measured at 839,502 tons.

3. Receipts and expenditure are shown in the following statement, where the results of three years can be compared :—

	1888-89.		1887-88.		1886-87.	
	Receipts.	Expenditure.	Receipts.	Expenditure.	Receipts.	Expenditure.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
<b>Major Irrigation Works.</b>						
Orissa Canals ... ..	2,43,294	4,05,019	2,72,679	5,02,450	1,79,519	5,20,543
Midnapore Canal ... ..	2,51,510	2,09,804	2,33,925	2,50,896	2,39,074	2,95,088
Hidgellee Tidal Canal ... ..	55,097	78,040	41,858	66,970	53,494	22,735
Sone Canals ... ..	8,31,278	7,94,432	5,88,018	7,52,348	9,02,692	5,97,821
Total ... ..	13,81,179	14,87,296	10,87,080	15,72,170	13,69,679	13,76,187
<b>MINOR WORKS AND NAVIGATION.</b>						
<b>Irrigation and Navigation Works.</b>						
Barun Canals ... ..	20,814	36,332	20,665	20,397	12,427	28,650
Calcutta and Eastern Canals ... ..	5,75,125	3,93,801	5,79,934	2,24,656	4,83,054	1,92,204
Orissa Coast Canal ... ..	68,174	77,018	53,937	83,507	20,488	61,420
Total ... ..	6,64,113	4,07,151	6,54,536	3,37,560	5,25,969	3,82,349
<b>GRAND TOTAL</b> ... ..	<b>20,45,292</b>	<b>18,94,446</b>	<b>17,41,616</b>	<b>19,09,730</b>	<b>18,95,648</b>	<b>16,58,486</b>

The net deficit on Major Works is Rs. 1,06,116 contrasting with deficits in 1887-88 of Rs. 4,85,090 and in 1886-87 of Rs. 6,458, while Minor Works shew incomes in 1888-89 of Rs. 2,54,962, in 1887-88 of Rs. 3,16,876, and in 1886-87 of Rs. 2,43,220. All irrigation works taken together shew a net income in 1888-89 of Rs. 1,48,846; but as interest charges payable to the Imperial Government on the capital spent on Major Works amounted to Rs. 23,39,849, the actual deficit to be met from Provincial revenues was Rs. 21,91,003.

4. The better results of 1888-89 as compared with 1887-88 have been mainly due to increased receipts, but the statement shews that considerable reductions of expenditure were also effected. In Orissa one great outlet of expenditure, the reconstruction of the two weirs which were partially overthrown by the floods of 1886, a work which for two years has been a heavy charge on the revenues of the Orissa Canals, is now happily closed. On the other hand, the ordinary maintenance charges of these canals are found to be higher than usual, a point to which the attention of the Superintending Engineer has been drawn in the Chief Engineer's Note. It seems probable, however, that, so long as the reconstruction of the weirs was in progress, expenditure on ordinary repairs was restricted to the more imperative requirements of the works, and more therefore had to be spent in 1888-89 in carrying out repairs which could be and had been postponed for a while. The cost of establishment chargeable against Revenue, which in 1886-87 was Rs. 5,16,714 for the works given in the table above, rose in 1887-88 to Rs. 7,21,876, an increase due not to greater extravagance in the establishment employed, but to the introduction of a new and fairer method of distributing establishment charges between Irrigation and Roads and Buildings. For 1888-89 the corresponding figure is Rs. 7,01,050, and the saving would have been greater but for an increase of Rs. 27,996 in the cost of establishments employed under Civil officers for the collection of revenue on the Orissa, Midnapore and Sone Canals, an increase which was due chiefly to the greater amount of work involved in realising the heavier collections. On the whole, therefore, there has been a substantial saving in the charges incurred for establishment on the maintenance and management of the canals. The occurrence of this saving can be traced chiefly to the increased amount of work carried out by the Irrigation staff on Roads and Buildings, and the consequent transfer of a larger share of establishment charges from the Irrigation to the Roads and Buildings Branch. Similarly the larger Capital expenditure in 1888-89, on works not chargeable to Revenue, has tended to relieve the canal Revenue account of a portion of its establishment charges.

5. The revenue collected in the last three years on the works mentioned in the above statement is shown below :—

HEAD.	REVENUE		
	1888-89.	1887-88.	1886-87.
	Rs.	Rs.	Rs.
Water-rates	10,22,352	7,69,362	10,43,342
Navigation	9,74,105	9,21,482	7,88,685
Miscellaneous	60,298	66,838	80,171
Total	20,56,755	17,57,682	19,12,198
Less refunds of revenue	13,463	16,166	16,950
Net total receipts	20,43,292	17,41,516	18,95,248

6. The recovery of the revenue derived from water-rates from the depression of 1887-88 was assisted by the character of the irrigation season of 1888-89, which was such as to lead to a full appreciation of the value of canal water. On the Sone Canals, where collections had been to some extent suspended in consequence of the agitation of the previous year, the receipts rose from Rs. 5,19,586 to Rs. 7,59,556, and it is clear that the efforts of the managing staff to restore public confidence in the canals have been attended with success. Irrigation in Orissa also has received a fresh impetus, and the collections of 1888-89 are higher than those of any year since 1882-83, while on the Midnapore Canal, where no great development of irrigation can be expected owing to the limited and fluctuating character of the source of supply, there is a slight improvement on the results of 1887-88.



7. The activity of irrigation in 1888-89 is evident from the figures in the following table, where actual areas irrigated during the last three years are shown :—

					1888-89.	1887-88.	1886-87.
					Acres.	Acres.	Acres.
Orissa	...	{	Kharif	...	156,319	108,867	75,115
			Rabi	...	2,779	502	2,440
			Perennial	...	194	187	154
			Total	...	159,292	109,506	77,709
Midnapore	...	Kharif, including bore crop			69,777	65,864	69,762
Sone	...	{	Kharif	...	69,628	57,595	80,062
			Rabi	...	69,817	27,501	16,662
			Perennial	...	4,600	6,265	11,626
			Hot-weather	...	11,762	13,855	15,278
			Five-year lease	...	200,102	210,164	194,556
Total					355,909	315,380	268,204
Total Major Works					584,978	490,750	415,675
Sarun	...	{	Kharif	...	3,897	1,699	566
			Rabi, including hot-weather...	...	3,316	2,519	1,580
Total Minor Works					7,213	4,218	2,146
GRAND TOTAL, MAJOR AND MINOR WORKS					592,191	494,968	417,821

8. The "earnings" of the year's work, of which the above table shows the extent, are as follows :—

						Water rates earned. 1888-89. Ra.
Orissa Canals	...	...	...	...	...	2,42,808
Midnapore Canal	...	...	...	...	...	1,31,438
Sone Canals	...	...	...	...	...	8,05,790
Sarun Canals	...	...	...	...	...	21,850
Total						12,01,881

These sums represent the whole of the liabilities incurred by cultivators on crops raised by canal water during the year. In previous years the definition of the word "earnings" has been restricted to the assessments, which were not only fully completed, but also legally recoverable within the year. Exact returns of "earnings" (in the wider sense of the word now adopted) are not available for previous years; but owing to the extended use of canal water already noticed, the earnings of 1888-89 considerably exceed those of 1887-88 and 1886-87. This is in favour of good collections in 1889-90.

9. The arrears of water-rates outstanding at the close of each of the last three years are shown in the following statement :—

NAME OF CANAL.				ARREARS.		
				1st April 1889.	1st April 1888.	1st April 1887.
				Ra.	Ra.	Ra.
Orissa Canals	...	...	...	1,14,597	92,109	87,458
Midnapore Canal	...	...	...	84,773	56,493	50,749
Sone Canals	...	...	...	3,80,613	4,11,281	2,31,582
Sarun Canals	...	...	...	34,927	33,492	32,712
Total				6,14,910	5,93,375	4,02,501

NOTE.—The figures are those of the Examiner, Public Works Accounts; but it is believed that they will require correction, since they do not agree with those given by the Superintending Engineer, which again differ from those of the Collector.

The reduction effected in the outstanding balances of the Sone Canals is less than the increments in the balances of the Orissa and Midnapore Canals taken together. The progress made with collections on each system can be compared as follows :—

		Percentage of current demand adjusted.	Percentage of arrear demand adjusted.
Sone Canals	...	60	80
Midnapore Canal	...	34	89
Orissa Canals	...	46	72

These results (except in the case of the Sone Canals) cannot be considered good, and it is again necessary to call the attention of district officers in Orissa and Midnapore to the steady growth of the arrear balances as a subject which demands early and energetic treatment.

10. In Navigation Receipts improved results are shown on all the lines except the Calcutta and Eastern Canals. There is reason to suppose that the income from this route, on which the traffic receipts are greater than on all the other canals of the province combined, is being unfavourably effected by the competition of the Central Bengal Railway. Under arrangements which existed before the construction of the railway, when the canals had a monopoly of the traffic, and which have not yet been altered, tolls are only collected at the Calcutta terminus of the boat-route; and the railway is thus enabled to tap the canal traffic before the latter has paid toll, and therefore at present competes with the canal at an advantage. The actual tollage collections for each system are given below for three years—

YEAR.	Orissa Canals.	Midnapore Canal.	Hidgellee Tidal Canal.	Orissa Coast Canal.	Sone Canals.	Calcutta and Eastern Canals.	Total.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1887-87	58,514	1,00,681	51,804	25,487	46,665	4,73,193	7,77,748
1887-88	66,028	1,29,574	66,406	37,828	30,984	5,71,872	9,49,298
1888-89	69,430	1,45,760	53,916	65,010	52,162	5,35,491	9,53,168

On the Nuddea rivers the collections fell from Rs. 1,98,318 to Rs. 1,91,749

11. The number of complaints which came up for disposal during the year was altogether 14,710, of which 12,506 were complaints made during the year and 2,204 were old complaints left over for disposal from the files of the previous year—

	ORISSA.		MIDNAPORE.		SONE.		TOTAL.	
	Number.	Percentage on cases disposed of.	Number.	Percentage on cases disposed of.	Number.	Percentage on cases disposed of.	Number.	Percentage on cases disposed of.
Pending from last year	1,503	.....	84	.....	625	.....	2,212	.....
Filed during the year	3,769	.....	1,637	.....	7,632	.....	12,498	.....
<b>Total</b>	<b>5,272</b>	.....	<b>1,721</b>	.....	<b>7,657</b>	.....	<b>14,710</b>	.....
Disposed of { Admitted	.....	.....	216	12.5	2,253	39.0	.....	.....
Dismissed	.....	.....	1,505	87.5	5,404	61.0	.....	.....
<b>Total</b>	<b>4,110</b>	<b>100.0</b>	<b>1,493</b>	<b>100.0</b>	<b>5,773</b>	<b>100.0</b>	<b>11,374</b>	<b>100.0</b>
Pending on 31st March 1889	1,163	.....	239	.....	1,015	.....	2,417	.....
Area irrigated in 1888-89	139,702	.....	60,777	.....	365,009	.....	565,488	.....
Proportion of acres irrigated to one complaint (current year only).	42.04	.....	42.3	.....	50.6	.....	46.7	.....
Do do for 1887-88 (including cases pending from previous years).	37.9	.....	78.3	.....	44.7	.....	47.5	.....

The above table, which is an abstract of the information given in the various Revenue reports on the filing and disposal of complaints, is defective in the case of the Orissa Canals, where the Deputy Revenue Superintendent has failed to distinguish the claims admitted and those rejected. Also, since in the reports of 1887-88 current and pending complaints were taken together, it is impossible to exactly compare the work done in each year. As, however, the number of complaints, current and pending, in 1887-88 was 10,332, being in the ratio of 1: 47.5 to the number of acres irrigated, while in 1888-89 the number of current complaints is 12,498 and the ratio 1: 46.8, it is clear that not only was the number of complaints greater in the latter year, but the proportion of complaints with regard to the area irrigated has also risen. In the case of the Midnapore Canal that proportion has almost doubled—an unsatisfactory state of affairs which should have received attention in the reports of the officers responsible.

12. The number of certificates issued for the recovery of arrears has fallen from 28,805 to 19,536, and the number pending at the close of the year from 19,536 to 15,880—

		Pending at close of 1887-88.	Instituted during 1888-89.	Total.	Disposed of.	Pending at close of 1888-89.
Midnapore	...	5,310	11,201	16,511	9,326	7,185
Orissa	...	9,047	5,259	14,306	8,653	5,753
Sone	...	5,179	4,216	9,395	6,463	2,942
Total	...	19,536	20,676	40,212	24,332	15,880

The reduction in the cases pending has been effected entirely on the Sone and Orissa Canals, as in Midnapore there is a considerable and highly unsatisfactory increase, notwithstanding that the number of cases disposed of is actually higher than in either of the other systems. The percentage, however, of cases disposed of, as compared with the number pending and instituted, is not so good, the respective percentages being for Midnapore 56·5, Orissa 59·8, and Sone 68·7. Judging by the very large proportion of cases struck off compared with the total number disposed of in Midnapore, namely, 5,478, or nearly 59 per cent. it appears probable that sufficient care is not exercised in issuing these certificates, and that much unnecessary work is in consequence thrown on the officer who is trusted with their disposal.

13 The Lieutenant-Governor notes with satisfaction the names of the various officers to whom Colonel Harrison awards special praise, and he takes this opportunity, on Colonel Harrison's connection with the province being severed, of recording his acknowledgment of the excellent service rendered by him during his tenure of the office of Chief Engineer and Joint-Secretary, and of the admirable tact and judgment which Colonel Harrison has always displayed in administering the department confided to him.

ORDER.—Ordered that a copy of this Resolution, and of the Note and its accompaniments, be submitted to the Government of India, in the Public Works Department, for information; also that copies be forwarded to the Appointment, Revenue, and Financial Departments of this Government; the Board of Revenue, Lower Provinces; the Commissioners of the Presidency, Burdwan, Patna, and Orissa Divisions; the Collectors of the 24-Pergunnahs, Nuddea, Hooghly, Midnapore, Burdwan, Patna, Shahabad, Gya, Sarun, Cuttack, and Balasore; the Superintending Engineers of the Orissa, South-Western and Sone Circles; and Examiner, Public Works Accounts, Bengal, for information.

By order of the Lieutenant-Governor of Bengal,

C. W. I. HARRISON, *Lieut.-Col., R.E.*,

*Offy. Joint-Secy. to the Govt. of Bengal,*

*P. W. Dept.*

**Government of Bengal.**  
**PUBLIC WORKS DEPARTMENT.**  
**IRRIGATION BRANCH.**  
**REVENUE REPORT.**

*Note by* **LIEUTENANT-COLONEL C. W. I. HARRISON, R.E., Chief Engineer, on the Canal Revenue Reports for the year 1888-89.**

The Capital expenditure on Irrigation Works, for which Capital accounts are kept, amounted during the year 1888-89 to Rs. 9,19,020 for direct and Rs. 23,231 for indirect charges—

	Direct charges. Rs.	Indirect charges. Rs.	Total. Rs.
Capital expenditure not charged against Revenue ... ..	7,74,547	18,229	7,92,776
Minor Works and Navigation, Provincial ... ..	1,44,473	5,002	1,49,475
<b>Total ...</b>	<b>9,19,020</b>	<b>23,231</b>	<b>9,42,251</b>

2. The total Capital outlay at the end of the year 1888-89, including indirect charges, was as follows:—

	Direct charges. Rs.	Indirect charges. Rs.	Total. Rs.
<i>Major Irrigation Works.</i>			
Productive Public Works ...	5,88,83,503	16,58,558	6,05,42,061
<i>Minor Works and Navigation.</i>			
Protective grants—Imperial ...	8,66,000	...	8,66,000
Ordinary revenue { Imperial and Provincial } ...	98,67,297	2,81,485	1,01,48,782
<b>Total ...</b>	<b>6,96,16,800</b>	<b>19,40,043</b>	<b>7,15,56,843</b>

3. The above outlay is divided under the different projects in the following statement:—

Works.	During 1888-89.			To end of 1888-89.		
	Direct charges.	Indirect charges.	Total.	Direct charges.	Indirect charges.	Total.
<i>Major Irrigation Works.</i>	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Orissa Canals ...	6,23,439	15,279	6,38,718	2,35,37,322	5,31,481	2,40,68,803
Minnapore Canal ...	2,695	63	2,718	82,66,010	1,83,711	84,49,721
Hidgellee Tidal Canal ...	...	...	...	17,95,489	44,897	18,40,196
Sone Canals ...	1,48,443	2,897	1,51,340	2,52,84,682	8,98,559	2,61,83,241
<b>Total ...</b>	<b>7,74,547</b>	<b>18,229</b>	<b>7,92,776</b>	<b>5,88,83,503</b>	<b>16,58,558</b>	<b>6,05,42,061</b>
<i>Minor Works and Navigation.</i>						
Tirhoot Project ...	...	...	...	5,31,425	74,650	6,06,075
Damoodah Project ...	(—)11,200	...	(—)11,200	1,51,141	16,289	1,67,380
Calcutta and Eastern Canals ...	47,862	1,507	49,369	52,27,428	61,057	52,88,485
Orissa Coast Canal ...	97,811	3,495	1,01,306	41,54,073*	1,02,366	42,56,429
Barun Canals ...	...	...	...	6,69,230	27,183	6,96,413
<b>Total ...</b>	<b>1,44,473</b>	<b>5,002</b>	<b>1,49,475</b>	<b>1,07,83,297</b>	<b>2,81,485</b>	<b>1,10,14,782</b>
<b>GRAND TOTAL ...</b>	<b>9,19,020</b>	<b>23,231</b>	<b>9,42,251</b>	<b>6,96,16,800</b>	<b>19,40,043</b>	<b>7,15,56,843</b>

\* Includes expenditure of Rs. 8,00,000 from famine protective grants.

## REVENUE.

4. The total revenue receipts, working expenses and charges for interest in respect of the works which are classed as Major Irrigation Works during 1888-89, and four previous years, are shown in the following statement:—

PARTICULARS.	1888-89.	1887-88.	1886-87.	1885-86.	1884-85.
	Rs.	Rs.	Rs.	Rs.	Rs.
Receipts from all sources ...	18,81,179	10,87,080	13,69,679	15,74,272	12,99,876
Working expenses (direct and indirect charges) ...	14,87,295	15,72,170	13,76,187	11,98,291	12,27,414
Net revenue ...	(—)1,03,116	(—)4,85,090	(—)16,458	3,76,981	72,462
Charges for interest ...	23,39,849	23,13,448	22,91,006	22,66,710	22,29,979
Deficit ...	24,45,965	27,98,538	22,97,464	18,90,729	21,57,517
Rate per cent. on Capital outlay ...	4·04	4·68	3·88	3·23	3·72

## INTEREST.

5. The total amount of interest payable to the Imperial Treasury on account of Major Irrigation Works for the year 1888-89 is Rs. 23,39,849.

## FINANCIAL RESULTS.

6. The following statement shows the financial results of both Major Irrigation Works and Minor Works and Navigation, of which Capital and Revenue Accounts are kept, to the close of the year 1888-89:—

		Major Irrigation Works.	Minor Works and Navigation.
		Rs.	Rs.
Direct revenue ...	...	1,51,85,443	2,05,73,482
Working expenses (direct charges) ...	...	1,58,26,535	79,97,925
Results on direct charges only ...	Loss ...	6,41,092	Profit ... 1,25,75,557
Indirect charges debitable to revenue ...	...	8,27,907	2,05,967
Results on both direct and indirect charges ...	Loss ...	14,68,999	Profit ... 1,23,69,590
Charges for interest on Capital ...	...	3,40,63,927	Not calculated.
Net results, including interest to end of 1888-89 ...	Loss ...	3,55,32,926	.....

Thus on Major Irrigation Works the net loss including interest is Rs. 3,55,32,926, or 58·69 per cent., of the gross Capital outlay, including all charges.

7. The financial results of Minor Works and Navigation, of which only revenue accounts are kept, are shown below:—

	Rs.
Direct revenue ...	78,22,208
Working expenses (direct charges) ...	42,44,206
Results on direct charges only ...	Profit ... 35,78,002
Indirect charges debitable to revenue ...	2,21,813
Results on both direct and indirect charges ...	Profit ... 33,56,189

## EXPENDITURE.

8. The expenditure on, and receipts from, Irrigation, Navigation, and Agricultural Works during the year 1888-89, as compared with those of the year 1887-88, are shown below:—

EXPENDITURE.	1888-89.	1887-88.
	Rs.	Rs.
42—Major Irrigation Works, Working Expenses—		
Provincial ...	14,87,295	15,72,170
43—Minor Works and Navigation—		
Irrigation and Navigation Works—		
Provincial ...	7,19,087	8,26,214
Agricultural Works—		
Provincial ...	7,83,156	7,17,359
Contributions ...	9,773	6,849
Total ...	7,92,929	7,23,208
49—Irrigation—Capital expenditure not charged against revenue ...	7,92,776	5,57,976
GRAND TOTAL ...	37,92,087	36,79,568



RECEIPTS.	Rs.	Rs.	RECEIPTS.
XXIX—Major Irrigation Works—Direct receipts—			
Provincial ... ..	13,81,179	10,87,080	
XXX—Minor Works and Navigation—			
Irrigation and Navigation Works—			
Provincial ... ..	8,57,793	8,54,038	
Agricultural Works—			
Provincial ... ..	9,733	8,606	
Total ... ..	22,48,705	19,49,724	

NOTE.—Commencing with the year 1888-89, "Refunds of revenue" are treated as reduction of receipts and not as charge against Working Expenses, and "Indirect charges" are shown in addition to direct charges under Working Expenses, in accordance with the suggestion contained in Government of India's letter No. 1647, dated 16th August 1889.

9. The areas irrigated during the year 1888-89 and the four preceding years, by the Major Irrigation Works, are shown in the following statement:—

YEAR.	ORISSA CANALS.				MIDNAPORE CANAL.				SOME CANALS.				TOTAL.			
	Kharif.	Rabi.	Perennial.	Total.	Kharif.	Rabi.	Perennial.	Total.	Kharif, in- cluding five- year lease.	Rabi.	Perennial.	Total.	Kharif.	Rabi.	Perennial.	Total.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1888-89 ...	156,319	2,779	164	159,252	60,406	3,969	...	64,375	581,402	69,917	4,600	355,809	504,219	75,065	4,704	584,078
1887-88 ...	169,807	502	187	169,500	65,966	...	...	65,966	591,614	27,601	8,205	316,380	454,345	28,003	0,402	480,750
1886-87 ...	75,715	2,440	154	77,709	69,702	...	...	69,702	520,910	10,002	11,686	298,290	344,793	19,102	11,780	415,075
1885-86 ...	70,633	1,006	171	71,339	70,606	...	...	70,606	571,433	50,610	10,227	332,670	412,600	54,215	10,008	476,513
1884-85 ...	64,181	2,994	197	67,372	69,394	...	...	69,394	587,861	77,558	9,262	370,601	407,310	80,682	9,469	497,327

The year's working and its financial results will now be dealt with separately for each of the canal systems of the province.

#### ORISSA CANALS.

10. The Capital, Interest, and Revenue Accounts of these canals are given below:—

##### 1.—CAPITAL ACCOUNT.

CAPITAL ACCOUNT.

HEADS OF ACCOUNT.	Outlay during 1888-89.	Outlay to end of 1888-89.
DIRECT CHARGES.	Rs.	Rs.
I.—Works ... ..	4,88,452	1,69,08,279
II.—Establishment ... ..	1,06,375	43,03,670
III.—Tools and plant ... ..	15,043	20,01,555
IV.—Suspense accounts ... ..	21,307	1,46,525
Loss by exchange ... ..	...	2,68,070
Total ... ..	6,31,177	2,36,23,099
V.—Less—Receipts on Capital account ... ..	7,738	85,777
Net total direct charges ... ..	6,23,439	2,35,37,322
INDIRECT CHARGES.		
Capitalization of abatement of land revenue ... ..	386	32,842
Leave and pension allowances ... ..	14,893	4,98,639
Total indirect charges ... ..	15,279	5,31,481

The capital outlay of 1888-89 shown in this statement represents the progress made with the works provided in the revised estimates of the Orissa Project. Owing to a slight scarcity of food-supply in the district, a more plentiful supply of labour was available than has been the case for some years, and the amount of earthwork carried out on canal and distributary banks, drainage works and protective embankments was more satisfactory. The additional lengths completed and the fresh areas brought under command, or provided with distributaries, will be shown in a later paragraph. The list of masonry works and buildings either put in hand or brought to completion also indicates a fair rate of progress during the year.

INTEREST  
ACCOUNT.

## 2.—INTEREST ACCOUNT.

		Rs.
Interest charges to end of 1887-88	...	1,28,54,084
Ditto for 1888-89	...	9,29,024
Total	...	1,37,83,108

REVENUE  
ACCOUNT.

## 3.—REVENUE ACCOUNT (Actuals).

	EXPENDITURE			RECEIPTS	
	During 1888-89.	To end of 1888-89.		During 1888-89.	To end of 1888-89.
	Rs.	Rs.		Rs.	Rs.
<b>DIRECT CHARGES.</b>					
<i>I.—Maintenance and Repairs.</i>			Water-rates ...	1,51,365	16,87,867
Works (extensions and improvements) ...	...	1,644	Navigation ...	77,908	10,64,564
Repairs ...	2,36,694	35,47,088	Miscellaneous ...	14,242	2,44,248
Compensation ...	...	53	Direct revenue realized in England ...	...	38,686
Establishment, including direction and accounts ...	70,201	8,27,613	Total ...	2,43,515	30,35,365
Tools and plant ...	21,156	2,14,313	Less—Refunds of revenue ..	221	3,582
Profit and loss ...	...	640			
Total ...	3,28,051	45,91,351			
<i>II.—Revenue management.</i>					
Irrigation establishment ...	43,161	6,69,722			
Navigation establishment ...	15,734	1,75,731			
Total ...	58,895	8,45,453			
<i>III.—Direct expenditure in England ...</i>	...	6,945			
Total direct charges ...	3,86,946	54,43,749			
<b>INDIRECT CHARGES.*</b>					
Capitalized abatement of land revenue ..	...	...	Net total receipts	2,43,294	30,31,783
Leave and pension allowances ..	18,073	2,62,248	Deficit ...	1,61,725	26,74,214
Total Indirect Charges	18,073	2,62,248	Total ...	4,05,019	57,05,997
Total Working Expenses	4,05,019	57,05,997			

\* These are now shown under the suggestion of the Government of India.

11. The income calculated on "earnings" of the year and expenditure are shown below:—

Expenditure.	Amount.	Earnings.	Amount.
<b>DIRECT CHARGES.</b>	<b>Rs.</b>		<b>Rs.</b>
<i>I.—Maintenance and repairs.</i>			
Repairs ... ..	2,36,694	Water-rates ... ..	2,42,808
Establishment, including direction and accounts ... ..	70,201	Navigation ... ..	77,908
Tools and plant ... ..	21,156	Miscellaneous ... ..	14,242
<b>Total ... ..</b>	<b>3,28,051</b>	<b>Total ... ..</b>	<b>3,34,958</b>
<i>II.—Revenue management.</i>			
Irrigation establishment ... ..	43,161		
Navigation ditto ... ..	15,734		
<b>Total ... ..</b>	<b>58,895</b>	Less—Refunds of revenue ... ..	221
<b>Total direct charges ... ..</b>	<b>3,86,946</b>	<b>Net earnings ... ..</b>	<b>3,34,737</b>
Indirect charges ... ..	18,173	<b>Deficit ... ..</b>	<b>70,282</b>
<b>Total working expenses ... ..</b>	<b>4,05,019</b>	<b>Total ... ..</b>	<b>4,05,019</b>

By the orders of the Government of India, a change is now introduced in the method of calculating the amount of water-rates shown as "earned" in the above statement. Under the rules in force on the Orissa canals, a portion of the water-rates assessed in any year do not become legally due until the 1st May, and a further portion till the 1st June, of the following year. Hitherto, therefore, as explained in previous Revenue Reports, the earnings of each year have been calculated by excluding those instalments of the assessments which would not become due till the year following; but, on the other hand, including those instalments of the assessments of the previous year, which, though undoubtedly earned in that year, have only become due in the year under report. The amount thus arrived at has hitherto been shown in the statistical table IV attached to each report as the amount of revenue assessed. In this and future reports, however, the 'earnings' of a year will be taken to mean the amount of the liabilities incurred by cultivators for water supplied during that year, without regard to the date on which those liabilities may become legally recoverable. The statement also now for the first time includes, on the expenditure side, indirect as well as direct charges.

12. The lengths of the canals and distributaries in operation at the close of the year 1888-89, compared with 1887-88, are given in the statement following:—

NAME OF CANAL.	1888-89.								1887-88.							
	Navigable canal.	Canals for irrigation only.	Distributaries and village channels.	Area protected from flood.	Area under command.	Area provided with distributaries.	Area irrigated.	Percentage of area irrigated to area provided with distributaries.	Navigable canal.	Canals for irrigation only.	Distributaries and village channels.	Area protected from flood.	Area under command.	Area provided with distributaries.	Area irrigated.	Percentage of area irrigated to area provided with distributaries.
Kantamparah ... ..	30	...	354	129,421	101,110	92,552	...	...	30	...	354	129,421	101,110	92,552	...	...
Do. extension ... ..	15	...	...	8,000	7,000	...	...	...	15	...	...	8,000	7,000	...	...	...
Gobri including extension ... ..	31	...	...	27,251	53,200	...	74,790	70.8	31	...	...	27,251	53,200	...	54,401	54.3
Do. extension ... ..	...	47	83	65,000	61,250	10,173	...	...	...	47	83	65,000	61,250	10,173	...	...
Do. extension ... ..	27	...	714	19,550	15,250	10,580	40,301	71.0	27	...	714	19,550	15,250	10,580	31,927	54.9
Do. extension ... ..	4	25	122	44,028	97,057	41,600	...	...	4	15	122	44,028	97,057	41,600	...	...
Do. extension ... ..	30	...	111	80,124	45,613	48,515	18,092	57.0	30	...	111	80,124	45,613	48,515	15,312	32.0
Mahanuddee Series ... ..	130	75	713	375,808	375,772	208,410	131,370	62.0	130	75	713	375,808	375,772	208,410	131,370	62.0
Do. extension ... ..	...	...	...	10,000	...	...	...	...	...	...	...	10,000	...	...	...	...
Do. extension ... ..	174	...	...	...	62,500	42,500	20,028	60.3	174	...	...	...	62,500	42,500	20,028	60.3
Do. extension ... ..	10	...	474	...	...	...	...	...	10	...	474	...	...	...	...	...
Do. extension ... ..	61	...	...	...	...	...	...	...	61	...	...	...	...	...	...	...
Brahm-Bytural Series ... ..	35	...	471	137,500	48,500	28,013	63.0	314	...	112	...	...	...	...	...	...
Total Orissa Canals ... ..	177	70	2004	375,808	611,272	250,919	159,202	63.4	1704	60	718	375,808	412,421	220,767	100,500	49.9

There has been an increase of  $6\frac{1}{2}$  miles in the length of canals intended for the purposes both of irrigation and navigation, and of 13 miles in the length of those to be used for irrigation only. The former increase is due to the completion of the Jajepore Canal in the Brahmini-Byturni Series, which was opened for traffic in the month of August 1888, and the latter to the completion of the Machgong Extension Canal in the Mahanuddee Series, as far as the 32nd mile, up to which point it has been filled with water.

There has been no increase in the length of village channels, and none are in progress upon any of the canals, but the length of distributaries has increased during the year to the extent of  $42\frac{1}{2}$  miles, of which  $6\frac{1}{2}$  miles are on the Kendrapara and Pattamoondi Canals, and  $35\frac{1}{2}$  miles on the High Level Canal, Range III, where the whole length of distributaries proposed to be constructed has been completed with the exception of about two miles of main distributary, and a few minor branches required for affording irrigation to the high ground near the Main Canal and the Orissa Trunk Road. The area protected from flood remains the same as it was in the previous year, as the Daib embankment has not yet been fully completed, but there is an increase of 98,851 acres in the area under command in consequence of the completion of that portion of the Machgong Extension Canal which lies above the 32nd mile, and of the Jajepore Canal, the former of which has added 28,851 acres, and the latter 70,000 acres to the area commanded. The area provided with distributaries has also increased to the extent of 24,132 acres, of which 3,402 acres are on the Kendrapara, Pattamoondi and High Level, Range I, canals of the Mahanadi Series, and 20,730 acres, on the High Level Canal, Range III, of the Brahmini-Byturni Series.

## RAINFALL.

13. The rainfall of the year 1888-89 and of the previous year in the Cuttack and Balasore districts is given in the Statistical Table No. IVE. In both districts the total fall registered is very nearly the same as that registered in 1887-88.

The average rainfall at the thirteen stations situated within the area commanded by the Orissa canals for nineteen years is 55.18 inches, whilst the fall of the year at the same stations was 47.94, or 7.24 inches below the average.

From the statement of rainfall at the eleven stations in the upper districts drained by the Mahanadi, which has been supplied by the Superintending Engineer, it appears that the average fall during the year under review was 43.08 inches against 52.18 inches of the year 1887-88, showing a decrease of 9.10 inches. The average for the last seven years up to and including 1887-88 was 46.22 inches, so that the fall of the year under review is somewhat below the average.

From the table below, which gives the average rainfall observed during the kharif and rabi months during the last seven years at thirteen stations within the tract irrigated by the Orissa canals, it is evident that the kharif rains, though on the whole more plentiful than usual, were unequally distributed, a very short fall being registered in July and October, while that of August was unusually large. The deficiency in October was, however, partly made up by an increase in November, when the quantity registered was 2.01 inches in excess of the fall of the previous year:—

		AVERAGE OF THIRTEEN STATIONS.					
		1883-84.	1884-85.	1885-86.	1886-87.	1887-88.	1888-89.
		Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
Kharif season	July	13.03	9.58	10.68	10.05	11.67	8.91
	August	9.69	7.45	10.44	9.88	8.49	21.31
	September	9.77	11.39	10.08	14.06	6.12	8.36
	October	1.18	6.06	4.84	6.87	2.69	1.11
	Total	34.27	33.98	36.04	42.04	28.97	39.99
Rabi season	November	0.15	0.23	1.26	1.66	0.87	2.88
	December	1.53	0.07	1.20	0.45	...	...
	January	0.19	0.15	0.39	0.49	1.70	0.06
	February	1.58	2.63	0.05	...	1.26	0.81
	Total	3.56	3.08	2.90	2.40	3.83	3.75
Whole year		37.83	37.06	38.94	44.44	32.80	43.74

The amount of rain and its distribution among the canals of the Orissa system is given in the following statement which covers the last five years:—

YEAR.	MAHARUDRA SERIES.									BRAHMINI-BYTUNI SERIES.								
	Kendraparah system.			Taldundah system.			High Level Canal, Range I.			High Level Canal, Range II.			High Level Canal, Range III.					
	Kharif.	Rabi.	Whole year.	Kharif.	Rabi.	Whole year.	Kharif.	Rabi.	Whole year.	Kharif.	Rabi.	Whole year.	Kharif.	Rabi.	Whole year.			
	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.
1884-85	35.65	4.75	34.75	30.52	2.15	27.85	32.24	2.45	52.15	31.78	2.94	46.24	30.24	2.40	44.34			
1885-86	34.56	1.82	32.64	30.44	2.82	30.62	31.65	3.14	40.88	34.14	3.61	55.41	30.20	2.60	55.27			
1886-87	30.97	2.00	33.59	42.80	3.97	44.76	41.67	1.53	43.16	44.02	1.48	42.15	42.72	2.08	44.79			
1887-88	29.93	3.74	49.55	29.59	3.39	40.90	29.54	1.94	44.77	27.08	2.39	47.04	30.15	3.20	52.83			
1888-89	37.07	3.28	45.50	44.39	4.54	53.25	38.78	1.83	44.64	42.72	2.87	51.18	44.60	2.87	55.00			

14. The following statement shows the areas irrigated and yearly rainfall since the year 1879-80:—

IRRIGATION.

YEAR.	Kharif.	Rabi.	Perennial.	Total.	Rainfall.
	Acre.	Acre.	Acre.	Acre.	Inches.
1879-80	105,186	3,616	236	109,038	60.85*
1880-81	112,171	4,877	173	117,221	85.10*
1881-82	126,611	5,403	264	132,278	56.92†
1882-83	128,530	4,109	398	133,038	59.03†
1883-84	47,035	1,341	344	48,760	57.21†
1884-85	54,181	2,994	197	57,372	50.40†
1885-86	70,563	1,605	171	72,339	52.59†
1886-87	75,115	2,440	154	77,709	60.07†
1887-88	108,867	502	137	109,506	47.84†
1888-89	156,319	2,779	194	159,292	47.94†

\* Mean of observations in Cuttack and Marsaghai.

† Ditto ditto at 13 stations throughout canal-irrigated area.

The spread of kharif irrigation has again been very marked, as the area which has taken water during 1888-89 is greater by 47,452 acres than the irrigated area of 1887-88, and greater by 27,789 acres than the irrigated area of any year since the construction of the canals. The partial failure of the July rains and the drought in October were the main causes which brought about this result.

To compare with 1887-88, of the increase of 47,452 acres in kharif irrigation, 18,019 acres are contributed by the High Level Canal, Range III, where the rate of increase is as much as 241 per cent., and 16,257 acres by the Kendraparah Canal. All the canals, however, show improved results, the lowest rate of increase being on the High Level Canal, Range II, where it was 18 per cent. Of the 2,227 more acres of rabi irrigated, 2,114 acres represent the increase on the Kendraparah Canal.

The whole area of all crops irrigated, being 159,292 acres, bears a ratio of 63 per cent. to the area under command of distributaries, already given as 250,910 acres. The ratio by canals is as follows:—

	1887-88.	1888-89.	Increase.
Kendraparah system	54.2	70.8	16.6
Taldundah ditto	54.9	71.0	16.1
High Level, Range I	32.0	37.0	5.0
High Level, " II	No distributaries.		
High Level, " III	35.0	60.3	25.3



15. The whole of the irrigated area was assessed. The figures below show the method of assessment alongside of the figures of the two preceding years for purposes of comparison:—

					1888-89.	1887-88.	1886-87.
					Acres.	Acres.	Acres.
Kharif	{	Five-year leases	...	...	152,282	102,863	73,699
		Annual leases	...	...	57	37	64
		Unauthorized irrigation	...	...	8,981	5,975	1,354
Rabi			...	...	2,779	501	2,439
Perennial		Sugarcane	...	...	193	130	149
Total, including unauthorized irrigation					159,292	109,506	77,709
Total, excluding unauthorized irrigation					155,311	103,531	76,355

It is observed, however, that though the figures used in the statements in this and the preceding paragraphs, which give a total of 159,292 acres as the area irrigated, are those adopted by the Superintending Engineer throughout his report of the year's operations, yet it is stated that the area actually under lease at the close of the year was 146,046 acres only. The difference thus observable between the area irrigated and that leased is described by the Superintending Engineer "as due to the areas provisionally entered in the leases of some of the canals, the lands commanded by which have not as yet been cadastrally surveyed, having been smaller than they were afterwards found to be when the measurements of the area actually watered came to be made." And the Deputy Revenue Superintendent summarises the results of the year as follows:—

				Rs.
Area leased and assessed during the year	...	...	...	1,30,258
Unauthorized irrigation	...	...	...	8,981
Assessed area of which measurements were completed after the close of the year	...	...	...	25,053
Total	...	...	...	1,59,292

1888-89. AN  
ANXIOUS PERIOD  
FOR THE PRO-  
SPERITY OF THE  
CANALS.

16. With the close of the year 1882-83 ended the first period of five-year leases which had been introduced in these canals in 1878-79; and since during that period it was deemed desirable to cause all the leases to end at the same time, with a view to permitting of an alteration of the rate simultaneously over the whole of the Orissa system. Should such alteration be considered advisable, all the leases given subsequently to 1878-79 were given nominally for five years, that is to say, at the five-year lease rate, but they really expired simultaneously on the 31st March 1883. With 1883-84 therefore commenced a new period of five years, and the year happening to be one somewhat favourable to canal irrigation, a considerable area was leased, all the leases for which lapsed on the 31st March 1888, causing the year under review to be opened with a leased area of 45,716 acres only. Up to the end of June very few fresh leases had been entered into, and matters began to wear a serious look so far as the interests of the canals were concerned; and it was not until the demand for canal water arose in July that any good start was made. During that month and August, notwithstanding the heavy rain at the close of the latter month, leases were obtained for some 43,000 acres of either new irrigation or renewals of old leases. A small increase in September and the drought in October added some 40,000 acres more, bringing the total by the end of November to about 131,000 acres. Subsequent measurement and the correction of estimated areas in the leases eventually raised the area to that given above.

RANGE I, HIGH  
LEVEL CANAL. A  
SPECIAL CAUSE FOR  
ANXIETY

Range I of the High Level Canal was the subject of special anxiety, since leases for no less than 13,000 acres out of the 14,605 acres shown as leased in 1887-88 lapsed at the close of that year. It was feared that many of the leases would not be renewed, but the scantiness of the rainfall in October had a most marked effect, and the area now leased is larger than it has been in any previous year.

17. At first sight the area now reached seems to lead to the conclusion that all the land under lease at the end of 1882-83 had now been re-leased. Such, however, is not the case, and dates given in the Superintending Engineer's Report show that though the area leased up to the end of 1888-89, viz. 146,046, it is fairer to take this figure than 159,292 acres, since the latter is the result of careful measurement which was wanting in 1882-83, is 13,018 acres more than the area leased up to the close of 1882-83, yet that, if the areas by canals be compared, it appears that even if none of the leases on the older canals be for entirely fresh irrigation, i. e., for land which had not been irrigated up to 1882-83, a considerable area of lapsed irrigation has still to be recovered, the increase of 13,018 acres being practically wholly due to increase in the High Level Canal, and especially Range III thereof. The remaining canals have not yet recovered the depression which followed the expiry of the first set of five-year leases as will be seen from the following table:—

LAPSED IRRIGATION STILL TO BE RECOVERED.

NAME OF CANAL.	AREA LEASED.		More.	Less.
	1898-99.	1882-83		
	Acres.	Acres.	Acres.	Acres.
Kendrapara, including Gobri	53,867	60,374	...	6,507
Gobri Extension	1,499	...	1,499	...
Pattamoondi	10,549	12,094	...	1,545
Faldundah	10,285	10,719	...	434
Machgong	27,261	34,012	...	6,751
High Level Ranges I and II	19,162	14,244	4,919	...
Doitto Range III	28,448	1,686	26,762	...
Total	146,046	138,028	28,276	15,257

18. It is clear from what has been said above that the Orissa Canals are very dependent on the nature of the season at a critical period for their prosperity; and there is no doubt but that, from the point of view of canal interests only, the drought of October 1888 was the most opportune occurrence that could have taken place, inasmuch as it happened just as the former leases had expired and there was no interval during which the cultivators might have come to think that they could do without canal water and to doubt whether it was to their interest to insure their lands against drought by a small yearly payment. The drought made them thoroughly appreciate the benefits of canal irrigation; and, as a matter of fact, it was in the real interests of the cultivators themselves that no such interval should occur; for nothing but continuous irrigation will enable them to be prepared with the means and method of irrigating with success and with universal benefit when drought really comes.

THE DROUGHT OF 1888-89 VERY BENEFICIAL IN EVERY WAY.

19. The information regarding five-year leases is not sufficiently exact to permit of a correct conclusion being formed as to how the area under five-year leases is progressing, especially whether lapsed leases are being renewed. It would be as well if this point were properly taken up by the Superintending Engineer and Deputy Revenue Superintendent in their reports for the year now in progress, since the renewal of leases will be a better proof than anything else that the Orissa is at last taking kindly to canal irrigation.

RENEWALS OF LEASES.

20. At the commencement of the year under review the accounts showed an unrealized balance of Rs. 96,567, of which Rs. 92,110 was for water-rates, and Rs. 4,457 for miscellaneous revenue. The additional assessments which fell due within the year on account of previous years, as well as the year under review, came to Rs. 2,04,535, of which Rs. 1,96,765 was for water-rates. Thus, including arrears, the gross amount, which was liable to be collected during 1888-89, was Rs. 3,01,102, of which Rs. 1,60,328 was realized and Rs. 24,003 either remitted or written off as irrecoverable. Accordingly, the year closed with an unrealized balance of Rs. 1,16,771, of which Rs. 1,14,597 was for water-rates.

ASSESSMENT AND COLLECTIONS.

This balance is larger than that at the end of the previous year. The increase is due, in a great measure, to the large increase on the assessments during the year. The outstanding balances, however, include considerable demands on account of irrigable but unirrigated beali rice lands—a class of lands which, in cases where beali rice is the only crop grown on them, it has now been decided to strike out of the assessments of the blocks in which they are situated. The outstandings, therefore, will undergo some reduction when these

orders are carried into effect, as well as from the remission recommended by the Deputy Revenue Superintendent, of submerged and damaged leased areas, till now assessed at full rates. The actual realizations during the year, though larger than those of the previous five years, would have been much better, but for the damage to crops caused by drought and abnormal cyclonic weather. The attention of the Deputy Superintendent has, however, been drawn to the steady increase in the outstanding balances, and he has been requested to submit a special report on the measures he would propose for the reduction of these arrears, and on what hopes may be entertained of effecting the reduction at an early date. A detailed account of the balances is given below:—

Year in which amount fell due.	Water-rates.		Miscellaneous.	
	Rs.		Rs.	
1881-82	...	327	76	
1882-83	...	108	246	
1883-84	...	435	466	
1884-85	...	1,123	476	
1885-86	...	2,642	438	
1886-87	...	8,040	463	
1887-88	...	32,907	...	
1888-89	...	69,015	...	
Total arrears	...	1,14,597	2,175	

21. The results of the year as regards water-rate collections are shown below:—

	OUTSTANDINGS OF ALL YEARS UP TO AND INCLUDING 1887-88.			DEMANDS DUE IN 1889 FOR THE IRRIGATION OF THAT YEAR.		
	Rupess.	Percentage of demands outstanding on 31st March 1889.	Rupess.	Rupess.	Percentage of demands for the year.	Rupess.
Outstandings to end of 1887-88, with assessments made in 1888-89	...	100.0	1,01,837	...	100.0	1,37,038
Adjustments made { Collections	93,402	57.7	...	57,963	45.6	...
in 1888-89 { Remissions	22,851	14.1	...	62	0.04	...
Total adjustments	...	71.8	1,16,253	...	45.7	58,025
Outstanding on 1st April 1889	...	28.1	45,584	...	54.3	69,013

The percentage of adjustment for old outstandings is 71.8 against 73.6 of the last year, but that for the current demand is 45.7 against 45.1. The proportion of remissions is greater, being 14.1 against 5.7; it was mentioned in last year's report that considerable remissions would have to be made. So far as current demands are concerned, the percentage is the same in both years, being 0.04. The percentage of balances of old arrears still remaining to be collected at the close of the year has risen from 26.4 to 28.1, but the collection of the current year compares favourably with that of the year previous, as the unrealized percentage has fallen from 54.9 to 54.3.

COMPLAINTS.

22. The number of complaints received and the progress made in settling them is shown below:—

	Number pending from last year.	Number filed during year.	Total.	Disposed of during year.	Balance left pending.
Complaints against assessments	1,503	3,789	5,292	4,110	1,182
Miscellaneous	129	887	1,016	957	59
Total	1,632	4,676	6,308	5,067	1,241

The diminution in the arrears is satisfactory, and it is stated that all complaints arising out of the assessment of unauthorized irrigation have been disposed of as far as the Canal Revenue office is concerned. The number of new complaints was swollen by applications based on the recent orders of the Bengal Government regarding the remission of beali lands in five-year blocks, and by those relating to fully assessed lands which had been damaged by inundation.

23. The Superintending Engineer thus compares the kharif duties obtained from the several canals with those obtained in the previous year:—

NAME OF CANAL.	Rainfall during the kharif season.		Duty of quantity entering canal per cubic foot.		Duty of quantity utilized per cubic foot.	
	1888-89.	1887-88.	1888-89.	1887-88.	1888-89.	1887-88.
	Inches.	Inches.	Acres.	Acres.	Acres.	Acres.
Kondraparah Canal System ...	37.07	28.93	92.49	67.39	100.25	71.42
Ditto Canal ...	30.65	25.69	86.22	89.38	97.93	93.77
Pattamoonda do. ...	41.19	33.10	84.04	30.20	119.16	87.73
Gobri do. ...	37.91	25.63	92.33	41.36	94.81	81.62
Taldanda Canal System ...	44.39	28.69	82.60	79.60	217.40	98.70
High Level Canal, Range I ...	38.78	26.48	70.73	57.02	112.03	77.72
Ditto ditto, II ...	42.72	27.08	30.99	40.05	30.99	74.24
Ditto ditto, III ...	44.66	30.15	200.07	64.67	200.07	64.67

So that, except in the case of the High Level Canal, Range II, a higher average duty for the whole season was obtained; a natural consequence of the greater rainfall. In the case of the exception noted, a very high discharge was passed into this canal during October, partly in order to raise the level of the pool above the Byturni weir, for the purpose of benefiting the irrigation on Range III, but principally in order to facilitate irrigation from Range II by raising the level of the water. In the return of the Executive Engineer the whole of this discharge was represented as having been utilised, which, as the Superintending Engineer points out, can hardly have been the case. In future, care will be taken to show the quantity utilised by deducting the discharge at the outfall of the canal into the Byturni river.

During October, when the demand for irrigation was at its highest, and great pressure was brought on the canals, the average duty obtained was 53.48 acres per cubic foot entering the canals, and 60.32 acres per cubic foot utilised.

24. During the year 256 experiments on the outturn of crops were made, half on irrigated and half on unirrigated lands. On lands irrigated during 1888-89, the average weight of paddy per acre is 16.23 maunds and of straw 20.12 maunds, against 16.83 and 25.62, which are the respective averages of the five previous years. On unirrigated lands the figures for the year are 11.02 maunds of paddy against 12.46 maunds obtained in previous years, and 14.02 maunds of straw against an average of 19.05. The average yield per acre during the year therefore from irrigated as well as from unirrigated lands, though greater than it was in 1887-88, must both for grain and straw be considered but moderate.

The difference in favour of irrigation, as shown by these experiments, is 5.21 maunds per acre in grain and 6.10 maunds in straw, the figures obtained from the averages of previous years being 4.37 and 7.57 respectively.

25. The cost of revenue establishment of the year was Rs. 43,161. The following statement shows the details of the year under review with those of the three previous years:—

	1888-89.	1887-88.	1886-87.	1885-86.
	Rs.	Rs.	Rs.	Rs.
<i>Establishment under Collector.</i>				
Superior officers and permanent and temporary establishment, including travelling allowance ...	31,389	28,740	26,007	24,028
Contingencies ...	2,889	2,218	2,625	1,948
Headmen's fees ...	1,680	2,208	1,209	1,229
<i>Establishment under Executive Engineer.</i>				
Permanent and temporary establishment ...	3,052	2,964	2,942	2,854
Contingencies ...	...	...	...	...
Water-regulation establishment ...	4,151	4,161	4,222	4,245
<b>Total</b> ...	<b>43,161</b>	<b>40,800</b>	<b>37,005</b>	<b>34,304</b>
Collections of water-rates and miscellaneous revenue by the Canal Revenue Department ...	1,60,328	1,46,039	1,05,775	1,16,940
Percentage ...	26.9	27.6	34.98	29.3

26. The management of the navigation of the canals and the collection of the revenue from this source is in the hands of the engineering staff. The

receipts, which are tabulated in statistical table ID, include tolls collected on boats and rafts using the canals, and the earnings of the transport service maintained by Government between Bhuddruck on the High Level Canal and Cuttack, a distance of 74 miles. The collections from tolls and transport service for the last ten years are shown below :—

			Tolls.	Transport service.	Total.
			Ra.	Ra.	Ra.
1879-80	...	...	62,389	35,686	98,075
1880-81	...	...	41,297	30,106	71,402
1881-82	...	...	53,219	29,987	83,206
1882-83	...	...	66,736	41,737	1,08,473
1883-84	...	...	61,602	48,550	1,10,152
1884-85	...	...	52,784	27,018	79,802
1885-86	...	...	64,093	19,919	84,012
1886-87	...	...	58,664	8,384	67,048
1887-88	...	...	66,628	4,376	71,004
1888-89	...	...	69,830	8,078	77,908

The cost of the establishment employed in collecting tolls during the year was Rs. 9,474, or Rs. 319 in excess of the previous year, due partly to the opening of the Jajepore Canal for traffic in August 1888, on which Rs. 156 was incurred, and partly to the Toll Collector at the Jumboo lock of the Kendrapara Canal having been employed there for a complete year instead of only for a portion of a year, as was the case in 1887-88.

27. The following statement compares the traffic (excluding the transport service) of all the canals in Orissa during the year under review with that of the previous year :—

CANALS.	Miles open.	Tollars on boats and rafts.		Number of boats, plyer cargo and passengers.		Tonnage of cargo and passenger boats.		Value of cargo and rafts.		Tollage per mile of canal.	
		1888-89.	1887-88.	1888-89.	1887-88.	1888-89.	1887-88.	1888-89.	1887-88.	1888-89.	1887-88.
		No.	Ra.	No.	No.	Tons.	Tons.	Ra.	Ra.	Ra.	Ra.
Taldandah and Machongr Canals	81	4,310	4,267	980	1,430	25,289	44,594	1,02,110	94,000	129.9	203.7
Kendraparah and Gohri Canals (including extension)	11	53,786	65,689	5,100	5,011	81,677	81,719	21,18,954	26,11,978	717.1	615.1
High Level Canal, Range I	121	6,042	8,300	2,058	2,975	22,090	21,110	6,28,530	8,46,000	201.2	251.7
Ditto, ditto II	19	3,302	4,085	1,042	1,993	16,732	17,570	3,06,802	3,74,492	271.6	320.8
Ditto, ditto III	19	1,601	1,311	780	678	7,594	6,210	1,34,472	1,27,511	86.3	60.0
Jajepore Canal*	64	80	...	103	...	534	...	14,003	...	15.2	...
Total	177	69,830	98,689	11,676	12,084	181,074	178,996	48,99,087	60,23,003	204.0	203.7

\* This canal was opened to traffic on the 11th August 1888.

This return only takes count of laden boats, of which there is a decrease both in number and tonnage. Of empty boats, on which reduced tollage rates are charged, the number which made voyages is 1,473 more than last year. The gross receipts from tollage are accordingly greater by Rs. 3,202, the total number of boats by 864, and the total tonnage by 30,267 tons. There is a decrease in rafts. Moreover, as the receipts from Government traffic have declined by Rs. 3,188, or 36 per cent., in consequence of the completion of the public works for which materials were boated in the previous year, the general traffic by private boats on the whole shows improvement, for though the actual weight of cargo, as exhibited in statistical table ID, appears to have slightly declined, the data on which that table is based cannot be depended on for accuracy. The classes of goods which show increases are grain, piece-goods, and building materials, while metals and salt have declined.

The number of passengers carried has increased by 10,015, being 17.21 per cent. in excess of the number who travelled in the year previous.

The fluctuations on the various canals are considerable. The increase on the Kendraparah Canal is larger by 7,319 than the decrease which occurred in 1887-88, so that the passenger traffic on this canal appears to have completely recovered from the temporary depression ascribed to the loss of the two ocean passenger steamers running between Calcutta and Chandbali; but the passenger traffic of the High Level Canal although increasing has not yet recovered itself. On the Taldandah Canal there is a still greater decrease than there was last year due to the same cause apparently, viz., that the passengers are not carried the short distance from the head of the canal at Jobra to the canal bridge situated on the crossing of the Pilgrim road.



28. The transport service maintained by Government between Bhuddruck and Cuttack was worked at a loss of Rs. 4,585 as against a loss of Rs. 5,712 in 1887-88. The number of passengers and the weight of goods carried were about double what were carried in 1887-88, but the line was worked at an increased cost of Rs. 3,383, steamers instead of accommodation boats being employed.

TRANSPORT SERVICE.

29. The miscellaneous receipts during the year under review are compared by sub-heads with those of the previous year in the following statement:—

MISCELLANEOUS RECEIPTS.

SOURCE OF REVENUE.	YEAR IN WHICH RECEIVED.		DIFFERENCE.	
	1888-89.	1887-88.	Increase.	Decrease.
	Rs.	Rs.	Rs.	Rs.
Plantations ...	1,450	1,131	319	...
Rent of lands ...	6,857	5,678	1,179	...
Canal produce ...	895	377	518	...
Rents of buildings ...	4,855	5,000	...	145
Sale of old materials ...	31	...	31	...
Fisheries ...	877	768	109	...
Sale of water ...	41	96	...	55
Miscellaneous ...	236	1,121	...	885
Total ...	14,242	14,171	1,156	1,085

30. The revenue receipts and working expenses of the Orissa canals for the last ten years are shown in the following statement:—

FINANCIAL RESULTS.

PARTICULARS.	1879-80.	1880-81.	1881-82.	1882-83.	1883-84.	1884-85.	1885-86.	1886-87.	1887-88.	1888-89.
REVENUE.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Water rates ...	1,57,747	1,78,947	1,34,290	1,40,823	1,11,850	51,345	1,00,842	96,076	1,37,869	1,51,363
Navigation ...	94,075	71,405	63,206	1,06,473	1,10,132	79,802	86,012	67,048	71,004	77,004
Miscellaneous ...	23,365	26,329	15,035	21,212	15,800	12,538	10,490	15,897	14,171	14,242
Total ...	2,75,187	2,76,778	2,12,531	2,68,508	2,37,782	1,43,685	2,07,350	1,79,021	2,22,954	2,42,610
Less—Refunds of revenue ...	512	777	414	335	68	78	6	92	303	221
Net total receipts ...	2,75,675	2,76,001	2,12,117	2,68,173	2,37,714	1,43,607	2,07,344	1,78,929	2,22,651	2,42,389
WORKING EXPENSES.										
Direct charges.										
I.—Works, maintenance and repairs—										
Works (extensions and improvements) ...	298	...	...	...	...	...	...	...	...	...
Repairs ...	2,59,480	1,90,654	2,17,753	2,22,431	1,80,017	2,03,137	2,22,080	3,52,701	3,10,980	2,56,694
Establishment, including direction and accounts ...	51,918	57,991	50,108	51,000	53,000	50,058	51,399	81,117	94,155	70,201
Tools and plant ...	8,339	12,900	13,548	14,323	11,392	16,107	19,139	16,480	10,801	21,160
Direct expenditure in England ...	1,265	1,262	1,930	2,001	427	...	...	...	...	...
Total ...	3,20,310	2,59,807	2,83,139	2,90,755	2,44,836	2,69,302	2,93,048	4,49,304	4,25,936	3,28,056
II.—Revenue management—										
Irrigation establishment ...	38,794	38,812	37,022	37,003	53,433	33,000	34,304	37,005	40,500	43,101
Navigation establishment ...	8,153	7,661	8,035	13,578	14,081	12,308	15,219	15,471	16,125	16,784
Total ...	46,947	46,473	45,057	50,581	67,514	45,308	49,523	52,476	56,625	59,885
Total direct charges ...	3,67,257	3,06,280	3,28,196	3,41,336	3,12,350	3,14,610	3,42,571	5,01,780	4,82,561	3,87,941
Indirect charges.*										
Capitalized statement of land revenue ...	...	...	...	...	...	...	...	...	...	...
Leave and pension allowances ...	17,047	18,880	16,407	13,741	12,840	13,039	14,101	18,703	21,561	18,073
Total indirect charges ...	17,047	18,880	16,407	13,741	12,840	13,039	14,101	18,703	21,561	18,073
Total working expenses ...	3,84,304	3,25,160	3,44,603	3,55,077	3,25,190	3,27,649	3,56,672	5,20,483	5,04,122	4,06,014
Net revenue (deficit) ...	1,08,030	68,179	1,31,910	86,271	98,080	1,85,761	1,49,328	3,41,024	2,79,771	1,01,723

\* Indirect charges are now, by the suggestion of the Government of India, included in this statement of financial results.

It will be noticed that the deficit which was so great in the years 1886-87 and 1887-88 has now been reduced to one comparable with the years 1884-85 and 1885-86, owing chiefly to the absence of expenditure on account of the breaches in the Mahanadi weir, but also to an improvement in the receipts. If the earnings of the two years 1887-88 and 1888-89, be compared, the deficit of Rs. 2,45,842 is found to be reduced to Rs. 70,282; but it must be remembered that, in addition to the causes given above, in the former year the assessments did not include amounts not legally due until after the close of the year, whilst such are included in the year under review.

## MAINTENANCE.

31. The outlay on maintenance, exclusive of that on the transport service which amounted to Rs. 6,403, during the year under review and the two preceding years is distributed under the sub-heads as follows:—

	1888-89.	1887-88.	1886-87.
	Rs.	Rs.	Rs.
Head works ... ..	71,168	1,94,272	2,34,500
Main canals ... ..	1,11,712	76,219	83,735
Distributaries ... ..	31,451	25,594	21,454
Drainage and protective works ..	15,960	10,778	6,690
Total ... ..	2,30,291	3,06,863	3,46,383

## HEAD WORKS.

Out of a total expenditure of Rs. 71,168 on head works, Rs. 62,796 represents the cost of maintaining the weirs, divided as follows:—

NAME OF WEIR.	Length.	EXPENDITURE.		RATE PER RUNNING FOOT.	
		1888-89.	1887-88.	1888-89.	1887-88.
	Feet.	Rs.	Rs.	Rs.	Rs.
Naraje ... ..	3,833	10,140	26,106	2.64	6.81
Mahanadi ... ..	6,349	26,539	1,32,941	4.18	20.93
Beropa ... ..	1,980	5,573	5,015	2.81	2.53
Brahmini ... ..	4,000	7,471	7,692	1.86	1.92
Pattia ... ..	783	5,698	6,526	7.27	8.34
Byturni ... ..	1,026	1,440	977	1.40	0.95
Burrah ... ..	526	5,935	7,165	11.28	13.62
Total of all weirs ...	18,497	62,796	1,86,432	3.39	10.08

As the rebuilding of the portions of the Naraje and Mahanadi weirs which had been carried away in 1886 was completed in 1887-88, the repairs necessary in 1888-89 were again of a normal character. A portion, however, of the apron of the Mahanadi weir was again injured by floods, involving a special outlay of Rs. 7,658 on its reconstruction.

The maintenance of the remaining head works, including river protective works, embankments and buildings, amounted to Rs. 8,372. Of these the buildings, on which quadrennial repairs were carried out, show an increase of Rs. 1,665.

## MAIN AND BRANCH CANALS.

32. The following statement gives the cost of maintenance of each main and branch canal separately for four years:—

CANALS.	Miles.	1884-85.		1887-88.		1888-89.		1889-90.	
		Cost.	Per mile.	Cost.	Per mile.	Cost.	Per mile.	Cost.	Per mile.
	No.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Kendrapara ... ..	39	20,370	1,000	17,339	445	21,004	436	20,780	799
Ditto extension ...	15	7,611	174	3,383	159	2,741	182	2,908	194
Gour ... ..	15	5,454	429	4,600	360	3,075	205	7,808	520
Ditto extension ...	6	4,725	787	4,747	674	3,699	616	9,191	1,531
Patnam-andee ... ..	47	8,709	185	11,347	241	14,082	299	18,029	383
Taidandah ... ..	27	17,077	632	8,965	328	9,071	336	14,213	526
Machgoni ... ..	19	8,399	442	4,163	219	4,041	212	2,901	153
High Level, Range 1 ...	33	13,771	417	12,230	370	12,802	388	10,602	321
Ditto, do. II ...	134	4,815	363	4,420	333	5,345	401	6,053	451
Ditto, do. III ...	19	6,339	333	6,605	348	6,216	327	10,021	528
Total ... ..	324	1,11,712	480	76,819	322	83,725	360	1,19,001	614

The average mileage rate of maintenance, therefore, shows an increase of more than 40 per cent., in which nearly all the canals have shared. On the Kendraparah canal, where the increase is greatest, gate renewals were carried out on three locks, and both on this and other canals navigated by steamers, a great deal of earthwork was carried out in order to repair the erosion of the banks which were in many places protected by bamboo revetments. On the canals generally there has been a great increase in the amount of earthwork carried out, as well as in silt clearance and the removal of weeds. The quantity of silt cleared by hand was 9,904,436 cubic feet, and the cost Rs. 26,217, giving an average rate of Rs. 2.65 per thousand, while in the previous year only 3,586,859 cubic feet were cleared at an average rate of Rs. 2.77. The amount of silt dredged was 304,077 cubic feet, and the cost Rs. 2,751, an average rate of Rs. 9 per thousand cubic feet. The cost of repairs to the canals, taking them all together, is far higher than in the two previous years, but is still below the cost in the somewhat abnormal year 1885-86; and an examination of the above figures and of those given in greater detail in the Superintending Engineer's report appears to show that a very large proportion of the increased cost as compared with the previous year is due to the effects of steamer navigation on the canal banks, or to outlay on navigation works, or in meeting the requirements of navigation. This remark applies with more or less force to all the navigable channels of the Kanchraparah system. It may be that the lower expenditure in the two previous years was due to a comparative neglect of the necessary repairs, but there appears to be grave reason for doubting whether these narrow channels are suitable to a heavy steamer traffic. The repairs during the year under review have certainly been effected with care; and should the experiment of planting the screw-pines along the water's edge have the anticipated result, the money will have been well spent, and a great saving in earthwork generally may be anticipated. But the experiment has not been tested sufficiently as yet, and should it not prove a success, either an entirely new method must be adopted for protecting the banks or little or no diminution in cost can be looked for.

The damage caused by steamer traffic cannot, however, be given as an explanation of the high rate on the navigable channel of the Taldandah canal nor on the Machgoing canal which has not yet been made navigable; and yet on both these the expenditure, as will be seen from the statement above, is double that of the previous year. In both cases the increased expenditure is ascribed to the larger amount of dressing and turfing required on the slopes and to increased charges for silt and weed clearing. The conclusion apparently to be drawn is that either these necessary repairs have been neglected in past years, or that a somewhat excessive zeal has been exhibited in "polishing." No special explanation is given for an abnormal collection of silt or an abnormal wear and tear to the slopes.

Of course some of the increased charges are beyond control, such, for instance, as the damage done to buildings by the cyclone of September 1888.

33. The cost per mile for repairs of distributaries for the last four years is shown below:—

	Miles.	1888-89.		1887-88.		1886-87.		1885-86.	
		Cost.	Per mile.	Cost.	Per mile.	Cost.	Per mile.	Cost.	Per mile.
DISTRIBUTARIES.	No.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Kendraparah Canal System	384	13,630	40.53	13,810	40.48	11,078	33.17	13,156	34
Taldandah Canal	714	3,909	41.23	2,948	31.35	2,222	31.21	2,297	33
Machgoing Canal	1224	6,721	40.88	5,182	40.84	4,071	33.80	2,743	30
High Level Canal, Range I	1174	1,346	78.95	4,660	39.74	4,081	34.80	5,325	45
Total	6444	31,451	48.77	26,594	39.69	21,457	33.27	24,581	34

On the High Level Canal, Range I, the quantity of earthwork and turfing required for the repairs of the distributary banks was much larger than usual—

an increase in which all the other canals share, though in a less degree. It is possible that this was due to the abnormal heavy rainfall of August, but this is not stated.

DRAINAGE AND  
PROTECTIVE  
WORKS.

34. There was also an increase during the year in the cost of drainage and protective works, amounting in all to Rs. 5,182; and occurring on the Kendrapara, Machgong and Gobri Extension Canals, and upon Ranges II and III of the High Level Canal. Besides greater outlay on clearing the drainage channels of silt, expenditure of a special character took place on the repairs of a large stone groyne above the Brahmini weir, and on the slopes and crests of the protective embankments.

NECESSITY FOR  
CAREFUL CONTROL  
OF THE EXPENDI-  
TURE.

35. As mentioned above, the increased expenditure both on canals and distributaries may have been due to a certain extent to natural causes, heavy rainfall, cyclone, &c., but a careful examination of the figures appears to show a distinct tendency to increased expenditure of a nature which may be guarded against and controlled. There is a happy mean between allowing works to fall into disrepair and a lavish expenditure in aiming at excessive trimness of banks and slopes, and there appears to be reason for doubting whether this happy mean has yet been found on the Orissa Canals, and the Superintending Engineer's earnest attention must be directed to this matter, as the only hope of ever making these canals pay even their working expenses appears to be in reducing expenditure as well as increasing receipts.

FLOODS.

36. The floods in the Mahanadi and Byturni rivers were moderate ones, but the flood in the Brahmini was slightly higher than the flood of 1879, although it was lower than the high flood of 1881 below the weir at Janapore. The highest flood in the Mahanadi river rose to 85.80 on the gauge at Naraje, as compared with 87.70, which was the highest reading obtained during the floods of the previous year, and with 92.10, which was the level reached at the same place by the great flood of 1872. The highest flood of the year in the Byturni river stood at a height of 5.40 feet above the reading of the flood of 1887 below the weir at Acquapadda.

#### MIDNAPORE CANAL.

CAPITAL ACCOUNT

37. The Capital, Interest and Revenue Accounts of this Canal are given below:—

##### 1.—CAPITAL ACCOUNT.

HEADS OF ACCOUNT.		Outlay during 1888-89.	Outlay to end of 1888-89.
DIRECT CHARGES.		Rs.	Rs.
I.—Works	...	(—)11	53,42,663
II.—Establishment	...	1	19,22,355
III.—Tools and plant	...	(—)429	8,93,449
IV.—Suspense accounts	...	3,133	43,496
Loss by exchange	...	.....	94,800
Total	...	2,694	82,96,803
V.—Less receipts on Capital account	...	20	30,798
Net total direct charges	...	2,665	82,66,010
INDIRECT CHARGES.			
Capitalization of abatement of land revenue	...	53	141
Leave and pension allowances	...	.....	1,83,570
Total indirect charges	...	53	1,83,711

## 2.—INTEREST ACCOUNT.

			Rs.
Interest charges to end of 1887-88	...	...	50,87,143
Ditto for 1888-89	...	...	3,30,587
Total	...	...	54,17,730

INTEREST.

## 3.—REVENUE ACCOUNT (Actuals).

REVENUE  
ACCOUNT.

	EXPENDITURE.			RECEIPTS.	
	During 1888-89.	To end of 1888-89.		During 1888-89.	To end of 1888-89.
<b>DIRECT CHARGES.</b>	<b>Rs.</b>	<b>Rs.</b>		<b>Rs.</b>	<b>Rs.</b>
<b>I.—Maintenance and repairs.</b>					
Works (extensions and improvements) ...	...	40,738	Water-rates ...	91,016	15,43,174
Repairs ...	1,06,139	19,89,766	Navigation ...	1,49,480	16,78,434
Compensation ...	...	30	Miscellaneous ...	11,299	1,93,535
Establishment, including direction and accounts	36,111	4,82,981	Total ...	2,51,795	34,15,143
Tools and plant ...	24,335	3,01,424	Less—Refunds of revenue ...	284	1,122
Total ...	1,66,583	28,14,939	Net total receipts ...	2,51,510	34,14,021
<b>II.—Revenue management.</b>					
Irrigation establishment	25,927	3,60,442			
Navigation ditto ...	7,550	1,34,738			
Total ...	33,477	4,95,180			
Total direct charges ...	2,00,062	33,10,119			
<b>INDIRECT CHARGES.*</b>					
Capitalized abatement of land revenue ...	.....	.....			
Leave and pension allowances ...	9,742	1,53,479			
Total indirect charges ...	9,742	1,53,479			
Total working expenses	2,09,804	34,63,598			
Profit ...	41,706	(—)49,577			
Total ...	2,51,510	34,14,021			

\* These are now shown under the suggestion of the Government of India.

The capital outlay during the year was Rs. 2,665, and to the end of the year Rs. 82,08,010 against Rs. 83,16,768, the amount of the estimate sanctioned by the Secretary of State.

The period allowed for the completion of the estimates sanctioned by the Secretary of State for the Midnapore canal expired on the 31st March 1888. At that date, however, certain works, which were regarded as falling within the scope of the original project, and therefore as properly chargeable to capital, still remained to be carried out. In these circumstances, the Government of India decided that no further extension of time for the completion of the project, as such, should be allowed, but, following the procedure laid down in Public Works Code, volume II, Chapter XV, paragraph 156, directed that a schedule of the works chargeable against capital, which it might be found necessary to carry out, should be annually submitted for sanction, and application for funds made in accordance with the provisions of the paragraph quoted.



EARNINGS

38. The revenue account calculated on "earnings" of the year and expenditure is given below :—

EXPENDITURE	Amount.	Earnings	Amount.
<b>DIRECT CHARGES.</b>	<b>Rs.</b>		<b>Rs.</b>
<i>I.—Maintenance and repairs.</i>			
Works (extensions and improvements)	...	Water-rates ...	1,31,433
Repairs ...	1,06,139	Navigation ...	1,46,760
Compensation ...	...	Miscellaneous ...	14,019
Establishment, including direction and accounts ...	36,111		
Tools and plant ...	24,335		
<b>Total ...</b>	<b>1,66,585</b>	<b>Total ...</b>	<b>2,92,212</b>
<i>II.—Revenue management.</i>			
Irrigation establishment ...	25,927		
Navigation ditto ...	7,550		
<b>Total ...</b>	<b>33,477</b>	<b>Less—Refunds of revenue</b>	<b>285</b>
<b>Total direct charges ...</b>	<b>2,00,062</b>	<b>Net total receipts ...</b>	<b>2,91,927</b>
<b>INDIRECT CHARGES ...</b>	<b>9,742</b>		
<b>Total working expenses ...</b>	<b>2,09,804</b>		
<b>Profit ...</b>	<b>82,128</b>		
<b>Total ...</b>	<b>2,91,927</b>		

Under the rules of the Midnapore canal, water is only supplied, as a general rule, from June to November, and the ordinary water-rates fall due on the 1st February, or within the limits of the year in which the water is supplied. Under ordinary circumstances, therefore, the amount of the 'earnings' of any year should coincide with the assessments of the year. In practice, however, a small portion of the assessments do not fall due till after the close of the year to which they belong; for instance, in cases of boro rice irrigation, where the whole of the assessment cannot well be completed before the close of the official year, or of lands illicitly irrigated, where the justice of the demand is disputed by the cultivator, and the assessment is consequently delayed. It may be stated that, of the sum of Rs. 1,31,433 shown above as the amount of water-rates earned during 1888-89, Rs. 1,18,243 are assessments completed within the year, Rs. 11,900 are assessments completed after the close of the year, while Rs. 1,290 is the estimated amount of the assessments which for various reasons it has not yet been possible to complete.

RAINFALL.

39. The following table shows the rainfall for the year 1888-89 and the four previous years at five registering stations in the Midnapore district :—

STATIONS.	1888-89.	1887-88.	1886-87.	1885-86.	1884-85.	Average of 10 years previous to 1888-89.
	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
Midnapore ...	68.11	55.38	49.39	76.20	57.19	55.97
Panchkoorah ...	59.47	56.21	50.56	80.03	49.54	56.27
Luchnapore ...	61.92	47.00	56.36	81.84	Not available.	
Mowah ...	60.14	49.76	55.53	81.07	Ditto.	
Contai ...	69.24	54.41	48.24	76.45	77.30	68.20

Of these stations, the first four only are within or contiguous to the area commanded by the Midnapore canal. The rainfall of the year, though up to

the average, was very unequally distributed, as an examination of the quantity recorded in each month from June to November will show:—

					Inches.
June	1888	...	...	...	3.67
July	"	...	...	...	18.57
August	"	...	...	...	21.16
September	"	...	...	...	6.58
October	"	...	...	...	1.08
November	"	...	...	...	0.29

The rainfall here shown for each month is the average of the quantities recorded at the four stations which lie within the irrigated tract.

40. The area of all crops leased and irrigated is returned by the Deputy Revenue Superintendent in charge of the assessments at 69,777 acres. Of this area 62,374 acres were kharif lands leased for five years; while of 4,034 acres of kharif leased for one year, 122 acres were voluntarily leased, and 3,912 acres assessed on the ground of having been surreptitiously irrigated. Lastly, though the right of Government to use the water of the Cossye during the rabi months is restricted, arrangements, such as have been common of recent years, were made for the irrigation of a limited area of boro rice, and 3,369 acres were so irrigated under annual leases.

LEASES AND  
IRRIGATION.

The Superintending Engineer returns the area leased and irrigated at 65,865 acres, thus differing from the return of the Deputy Revenue Superintendent by 3,912 acres. The explanation appears to be that the latter area was illicitly irrigated, and the assessment was not completed until after the close of the year. For this reason it was not included in the final month's irrigation returns of 1888-89; and the Superintending Engineer appears to have made a mistake in saying in his report that it was included.

The five-year leases in force during 1887-88 amounted to 66,628 acres, of which 32,875 acres expired on the 31st March 1888. During 1888-89 the renewals were 28,620 acres. The area of the leases which lapsed on the 31st March 1889 was 11,377 acres, an error having been made in the figures given in last year's note.

Of 69,777 acres assessed, 60,263 acres were irrigated from the Midnapore weir, 8,914 from the Panchkooah weir, and 600 from the tidal reaches. Similar information for three years is supplied in the following table, where the percentage which the area irrigated in each year bears to that commanded and provided with distributaries is shown:—

PARTICULARS.	Total provided for in the revised estimate.	Midnapore Weir, Ranges IV & V.			Panchkooah Weir, Range III and Tidal reaches, Ranges I and II.			Total.		
		1884-85.	1887-88.	1888-89.	1884-85.	1887-88.	1888-89.	1884-85.	1887-88.	1888-89.
Length of distributaries and branch canals Miles.	237.13	237.34	237.34	237.34	63.25	63.25	63.25	237.19	237.19	237.19
Area provided with distributaries Acres.	125,000	100,000	100,000	100,000	75,000	75,000	75,000	125,000	125,000	125,000
Area irrigated	...	69,777	69,777	69,777	9,514	9,514	9,514	69,777	69,777	69,777
Percentage of area irrigated to that commanded	...	55.78	69.78	69.78	12.68	12.68	12.68	55.78	55.78	55.78

In his summary of the irrigation season, the Superintending Engineer quotes as follows from the Executive Engineer's report:—

"The improvement on the previous year's irrigation, though slight, is still satisfactory, when the adverse circumstances under which we were placed last year is taken into consideration. The rains as stated before began to fall from September and ceased altogether in October. The demand for irrigation became general; but with the failure of the rains the discharge of the river Cossye began to diminish until in October only 800 or 900 cubic feet were available to irrigate over 65,000 acres. In November, when the crops were greatly in need of irrigation, the river discharges went down to 300 cubic feet. With careful regulation, this was made to irrigate the area leased, and it is a matter for congratulation that no general failure in the irrigated rice crops occurred on any distributary."

The conditions here described, a demand becoming more intense in proportion as the supply failed, are such as to severely test the administration of any canal; and the dual system of administration in force at Midnapore, where the negotiations with those who require the water on the one hand and the actual control of the supply on the other, rest with distinct and independent officers,

would appear to be inherently weak when subjected to such a strain. As the Collector remarks with much force:—"There was a great rush for water in September and October, and a large number of leases were executed on the mere chance of getting it." And, to quote the words of the Deputy Revenue Superintendent, "this" (the Revenue) "Department was found fault with for taking more leases than the Engineer officers could supply water with." The expediency of a change of system, under which leases should be controlled by the Engineers who already control the supply, has been strongly urged by the Revenue officers, supported by the Engineers. Such a system has, however, been already in force on the Sone canals, where its efficiency has been severely questioned, and has been the subject of prolonged and exhaustive enquiries, the report on which is now about to be submitted to the Government of India. Until a final decision has been pronounced on that report, it would be obviously premature to amend the Midnapore system after the Sone pattern.

In connection with the remarks in last year's note (paragraph 35) on this same subject, the following remarks by the Superintending Engineer are worthy of consideration when any new system is proposed to be introduced:—

"The matter of making the leases of all land irrigable from the same outlet or same distributary terminable on the same date was under consideration, and it is probable that if this system is adopted, and the rate successively year by year increased for subsequent leases entered into on the same distributary, that irrigation would become more general.

"At present the disinclination to renew until forced by absolute failure of rainfall leads largely to surreptitious irrigation, which must be very largely in excess of that reported, at the expense in a dry season of those who have leased honestly. Penalty rates are not enforced, and the dishonest irrigator finds himself admitted to a lease for the remaining years of a five-years' lease or a five-years' lease as the case may be on the same yearly rate as a lessee for the whole term, or at any rate on no worse terms than the applicant for a lease.

"This is the system on which irrigation has been worked for years in Midnapore, and a greater premium on declining to enter into leases till the last moment could not be afforded. The fact is very well appreciated by those who have entered into leases, and it is no matter for surprise if they fall into similar ways as soon as their leases expire. By insuring their crops for five years, they get no corresponding advantage.

"Were the proposed system adopted, it might be possible to apportion water more fairly in years of scanty rainfall by first attending to the wants of the lessees on the oldest leased distributary."

COMPLAINTS.

41. The number of irrigation complaints was 1,731, of which 1,617 were filed during the year and 84 pending from the previous year. 1,218 of the complaints were objections to certificates issued under the Public Demands Recovery Act, most of them in cases of surreptitious irrigation, while in other cases the applicants alleged either that no water was supplied or that the water-rates were excessive. The remaining complaints appear to have been of an ordinary character. Of 1,492 claims disposed of, 216 were decided entirely in favour of the petitioners, while the remainder appear to have been either rejected or in some cases compromised by the applicants entering into leases. The number left pending at the close of the year was 239.

DUTY OF WATER.

42. The kharif duty calculated on the discharge utilized was 164 acres per cubic foot for the area under Midnapore weir and 184 acres for that under Panchkoora weir. The former figure, which gives a much higher duty than what was obtained last year, must be received with caution, as the calculations of the discharges on which it is based are not trustworthy.

ASSESSMENTS AND COLLECTIONS.

43. The following comparative statement shows the balances, assessments, and recoveries of water-rates on the Midnapore canal since the year 1884-85:—

YEAR.	Amount outstanding at commencement of year.	Amount falling due during the year.	Total for recovery.	Cash realization.	Remitted or written off.	Balance at the end of the year.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1884-85	1,44,691	1,22,821	2,67,512	1,16,867	38,993	1,11,212
1885-86	1,11,212	1,10,893	2,22,105	1,08,769	43,309	69,972
1886-87	69,972	1,06,750	1,76,722	1,08,884	17,139	50,749
1887-88	50,749	1,02,689	1,53,438	90,837	6,951	56,403
1888-89	56,403	1,28,337	1,79,590	91,016	4,451	84,773

Thus, while the whole amount recoverable, including arrears, was Rs. 26,540 more than in 1887-88, the collections were only Rs. 179 more; the percentage of collections being 50.6 as against 50.3.

Out of the sum of Rs. 1,23,337 shown in the above table as falling due within the year, Rs. 1,18,243 were water-rates of the year itself. On this the collections were Rs. 39,863 and the remission Rs. 49, the total adjustments 33·7 per cent.

The amount recoverable on account of previous years was Rs. 61,586, of which Rs. 56,493 were arrears, properly so called, while Rs. 5,093 were water-rates earned in previous years, but not recoverable till 1888-89. The amount adjusted was Rs. 55,185, or 89·02 per cent.

This large reduction of arrears and the smallness of the sum (Rs. 4,041) which it was found necessary to treat as irrecoverable are satisfactory features in the returns of the Deputy Revenue Superintendent. A different view must be taken of the collection of the current demand, from which a balance of Rs. 78,372, or 66·3 per cent., is left unsettled. In partial explanation, it is stated that Rs. 39,302 had of necessity to stand over; of these, Rs. 5,053 were water-rates on boro rice, which is only reaped at the end of the year, Rs. 19,338 were demands contested by the ryots which could not be collected till the objections were heard and settled, and Rs. 14,911 were demands which it will probably be necessary to strike out, as good reasons for remission, in some cases insufficiency of supply, in others loss of crop from breaches in the Cossye embankment, are known to exist.

44. In miscellaneous revenue, the demand was Rs. 18,870, of which Rs. 5,503 were for arrears. The collections were Rs. 12,287 and the balance Rs. 6,035. The miscellaneous receipts collected by the Executive Engineer amounted to Rs. 1,731.

MISCELLANEOUS  
RECEIPTS.

45. The number of certificates undisposed of at the end of the previous year was 5,310. In addition, 11,201 new certificates were filed, 5,017 being for surreptitious irrigation and 6,184 for satisfaction of demands under kabulyats: 9,326 were disposed of—in 3,847 cases by the realization of the demand, while the other 5,478 cases were struck off; 7,185 cases, of which only 661 were more than six months' old, were left unsettled at the end of the year, and with these good progress has since been made. It is stated that no certificates were issued for the realisation of the current demand.

CERTIFICATES.

46. The cost of revenue establishment was Rs. 24,728 against Rs. 21,600 of the year preceding. The percentage of cost on the total collections is 23·93 against 20·34. The increased expenditure is chiefly accounted for by the payment of Rs. 2,135 as headmen's fees, on which nothing was spent in the previous year. The Commissioner remarks that in the report of the Deputy Superintendent nothing is said of the effect produced by the payment of commission to headmen. The Collector says the same, and notes further that, on the other hand, an attempt has been made to reduce expenditure by eliminating one collection with and making over its work to the others; but as this was done on the assumption that the leased area would not extend beyond its then existing limit, the success of the experiment has yet to be assured. Judging by the results the experiments have not so far answered since the collections have fallen off, and the percentage of cost of collection on the demand has increased.

REVENUE  
ESTABLISHMENT.

47. The receipts under navigation increased from Rs. 1,26,574 in 1887-88 to Rs. 1,46,760 in 1888-89. The usual particulars regarding the traffic carried during the last ten years in vessels other than those of the Calcutta Steam Navigation Company are given below:—

NAVIGATION AND  
TRANSPORT SER-  
VICE.

Description.	1879-80.	1880-81.	1881-82.	1882-83.	1883-84.	1884-85.	1885-86.	1886-87.	1887-88.	1888-89.
Miles open ... No.	53	53	53	53	53	53	53	53	53	53
Toll collections ... Rs.	91,961	97,145	99,000	1,00,157	1,05,931	1,19,797	1,25,331	1,01,054	1,08,400	(a) 1,20,333
Rate of toll per mile ..	1,733	1,483	1,699	2,002	2,053	2,370	2,364	1,906	2,040	2,365
Number of boats, including empty boats ... No.	32,944	44,461	51,400	62,554	62,000	47,653	43,340	45,799	40,026	54,214
Tonnage of boats ... Tons	226,927	293,428	323,325	360,973	365,970	412,379	373,006	337,440	400,800	470,906
Passengers carried ... No.	150,204	164,320	203,020	151,251	170,745	...	...	204,632	160,607	(b) 167,259
Estimated value of cargo, including rafts ... Rs.	1,50,41,400	1,48,15,000	1,47,79,700	1,49,43,032	1,79,53,408	1,57,55,997	1,27,23,175	97,25,557	1,10,44,844	1,31,70,90

(a) Exclusive of Rs. 91,424 tolls paid by the Calcutta Steam Navigation Company.

(b) By private boats, 81,940, and by the Calcutta Steam Navigation Company's steamer, 85,319.



The tollage receipts both from boats and steamers continue to advance, and are now higher than in any previous year, the increase being distributed over the whole year except for the month of August, when navigation was stopped owing to the excessive accumulation of silt at the Panchkura works. The Superintending Engineer shows that the export traffic in rice and paddy is steadily on the increase in the districts of Midnapore and Hooghly, and appears to be stimulated by a bad harvest, such as that of 1888-89, when the superiority of irrigated over unirrigated crops is more marked. Other goods of which greater quantities were carried are raw cotton, salt, piece-goods, building materials, fuel, timber and miscellaneous.

The Calcutta Steam Navigation Company continue to maintain a double daily service of steamers on the Midnapore canal. The discomfort of these vessels is made the subject of a complaint by the Executive Engineer. The tolls paid by the Company rose from Rs. 18,114 to Rs. 21,428.

48. The following statement shows the receipts on revenue account and working expenses of the Midnapore canal since the year 1879-80:—

PARTICULARS.	1879-80.	1880-81.	1881-82.	1-82-83.	1883-84.	1884-85.	1885-86.	1886-87.	1887-88.	1888-89.
<i>Receipts.</i>	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Water-rates	1,50,140	1,12,000	1,18,388	1,04,080	1,51,000	1,16,807	1,08,700	1,08,834	90,877	91,016
Navigation	1,08,518	93,089	1,29,708	1,40,928	1,20,680	1,29,747	1,17,578	1,09,093	1,14,574	1,44,700
Miscellaneous	11,857	10,407	10,780	17,025	12,000	12,401	16,197	16,838	16,967	14,019
Total	2,47,225	2,10,405	2,50,074	2,68,010	2,64,576	2,37,955	2,02,684	2,34,765	2,34,378	2,51,795
Less—Refund of revenue	—	—	—	—	44	112	—	211	483	280
Net total receipts	2,47,225	2,10,405	2,50,074	2,68,010	2,64,532	2,37,843	2,02,684	2,34,554	2,33,895	2,51,515
<i>WORKING EXPENSES.</i>										
<i>DIRECT CHARGES.</i>										
<i>I.—Works, Maintenance and repairs.</i>										
Works and repairs	84,489	1,21,607	1,35,114	1,40,067	1,37,025	1,34,636	1,24,657	1,27,784	1,31,181	1,06,120
Compensation	—	—	—	—	30	—	—	—	—	—
Establishment, including direct and accounts	19,162	22,180	31,022	32,318	29,545	30,922	28,651	31,677	46,407	36,111
Tools and plant	17,636	17,978	30,448	31,334	31,229	26,891	23,682	23,603	31,909	34,338
Total	1,20,696	1,65,685	2,02,584	2,03,639	1,98,229	1,91,449	1,79,400	1,84,432	2,09,187	1,84,569
<i>II.—Revenue management.</i>										
Irrigation establishment	10,377	16,101	10,374	30,337	19,802	24,004	22,790	24,154	22,797	23,987
Navigation ditto	7,340	7,457	7,619	14,101	7,511	7,809	7,610	7,673	7,750	7,440
Total	23,717	33,558	23,390	34,438	27,313	31,813	30,400	31,729	30,546	31,427
Total direct charges	1,44,403	1,99,233	2,25,974	2,38,077	2,15,542	2,23,262	2,09,800	2,16,161	2,39,733	2,16,006
Indirect charges*	7,622	8,833	10,116	8,422	7,340	8,741	8,987	8,877	10,783	9,743
Total working expenses	1,52,025	2,08,066	2,36,090	2,46,501	2,22,882	2,31,993	2,18,787	2,25,038	2,50,516	2,25,749
Net revenue	95,200	19,423	11,484	21,509	42,650	6,046	64,857	(—) 1,064	(—) 16,471	41,766

\* These are now shown under the suggestion of the Government of India. If allowance be made for the increase in the establishment charges under the new method, the year under review would compare favourably with any year since 1880-81 at any rate.

49. The actual cost of repairs during the year 1888-89 was less than that in the previous year, and is distributed by sub-heads as shown below:—

	1888-89.	1887-88.
	Rs.	Rs.
Head works, including buildings	13,903	11,667
Main canal and branches	65,216	89,238
Distributaries	22,464	20,687
Drainage and protective works	2,113	1,990
Steamers	2,443	7,599
Total	1,06,139	1,31,181

The expenditure on the Midnapore head works was Rs. 10,551 and on the Panchkooah head works Rs. 3,352. The expenditure on weirs was Rs. 2·70 per foot run of the Midnapore weir and Rs. 3·34 of the Panchkooah weir against Re. 1·48 and Rs. 5·30 respectively last year. The cost of clearing silt from the locks and lock entrances situated above the two weirs was considerable. A large sum also was expended in replacing the apron of the Midnapore weir and on the shutters on the Panchkooah weir sluices.



There is a decrease of Rs. 26,819 on the repairs of main canal and head works taken together, and an increase of Rs. 1,777 on those of distributaries. Mileage rates are worked out below:—

YEAR.	MAIN CANAL AND HEAD WORKS, &c.			DISTRIBUTARIES.		
	Length of canal, exclusive of river crossings.	Total cost of work.	Rate per mile.	Length of distributary channels.	Total cost of work.	Rate per mile.
	Miles.	Rs.	Rs.	Miles.	Rs.	Rs.
1881-82	48	1,03,910	2,164	277	11,854	42
1882-83	48	1,01,821	2,121	277	20,407	73
1883-84	48	1,06,425	2,216	277	21,195	76
1884-85	48	1,15,171	2,399	277	18,865	68
1885-86	48	1,10,350	2,299	277	14,324	52
1886-87	48	1,20,185	2,503	283	17,617	63
1887-88	48	1,10,404	2,301	283	20,687	74
1888-89	48	88,675	1,743	283	22,464	79

The mileage rate of the main canal is much lower than in previous years, economies having been chiefly effected in earthwork charges, which fell from Rs. 59,161 to Rs. 49,758, and in repairs of navigation works, which fell from Rs. 19,162 to Rs. 4,008. In earthwork 4,176,765 cubic feet of silt were cleared by dredgers and removed at a cost of Rs. 26,387, or at an average rate of 6.31 per thousand, which compares favourably with the rate of 7.63 obtained in the previous year, and 1,931,281 cubic feet were cleared by hand and excavators at an average rate of Rs. 5.32 per thousand, which is slightly higher than in 1887-88. In addition 1,755,000 cubic feet were cleared at an average rate of Rs. 8.12.6 per thousand from the first three reaches, which were closed for that purpose during April.

The cost of repairs to distributaries was Rs. 22,464 against Rs. 20,687 in the preceding year. The mileage rate for the year was Rs. 79 per mile, which is higher than that of former years; but it is explained that an expenditure of Rs. 8,039 for 4,493,278 cubic feet of earthwork had to be incurred in raising banks and clearing silt and in closing the breaches caused by the excessive floods of July and August. A certain amount of silt clearance and repairs to banks must always have to be done, whilst even if we exclude the whole sum, the balance falls at a rate of Rs. 51 per mile, which was about the rate in 1885-86, when it was Rs. 52 per mile. Since then the yearly rates have been Rs. 63, Rs. 74 and now Rs. 79, and there appears to be sufficient ground for a searching enquiry as to whether the expenditure under this head cannot be reduced, since even Rs. 51 per mile appears to be higher than the rate ought to be.

The expenditure on tools and plant amounted to Rs. 24,335 against Rs. 31,409 of the previous year, and was incurred principally on repairs to the dredging plant.

50. The highest flood in the Cossye river, the result of heavy rainfall following in cyclonic storm in the Bay, occurred on the 25th August, when the gauge reading above Midnapore weir was 88.80 and below it 87.50, against 92.30 and 91.55 respectively, the highest recorded in 1868. Several minor floods came down the river, which caused serious silt deposits both at Mohunpore and Panchkoora. Though very considerable damage by floods was caused to embankments both north and south of the canal by which irrigated crops are reported to have been destroyed, no damage occurred to the canal or works.

#### HIDGELLEE TIDAL CANAL.

51. On this canal, which is a major work, no capital expenditure was incurred during the year under report. The expediency, however, of incurring further expenditure on works designed for the most part to overcome the accumulations of silt, which at present interfere with the financial success of the canal, was indicated in the Chief Engineer's note of last year, and it was stated that estimates for remodelling the canal were then under the consideration of the Government of India. These estimates, amounting to Rs. 7,91,963, have now been sanctioned by the Secretary of State, and funds will be assigned as required for the completion of the improvements, with the condition, which has been

accepted by the Lieutenant-Governor, that the province shall accept financial responsibility for the work by agreeing to pay interest at the rate of 4 per cent. on all allotments made from Imperial revenues under this arrangement. The remodelling of the canal, therefore, as opposed to the original project, will be classified as a minor work.

CAPITAL ACCOUNT. 52. The capital, interest, and revenue accounts of the Hidgellee Tidal Canal are given below :—

## 1.—CAPITAL ACCOUNT.

HEADS OF ACCOUNT.				During 1888-89.	To end of 1888-89.
DIRECT CHARGES.				Ra.	Ra.
I.—Works	...	...	...	...	12,66,289
II.—Establishment...	...	...	...	...	4,49,790
III.—Tools and plant	...	...	...	...	57,585
IV.—Suspense accounts	...	...	...	...	...
Loss by exchange	...	...	...	...	22,790
Total				...	17,96,404
V.—Less—Receipts on capital account	...	...	...	...	916
Net total direct charges				...	17,95,489
INDIRECT CHARGES.					
Capitalization of abatement of land revenue	...	...	...	...	11,210
Leave and pension allowances	...	...	...	...	33,697
Total indirect charges				...	44,807

INTEREST ACCOUNT.

## 2.—INTEREST ACCOUNT.

				Ra.	
Interest charges to end of 1887-88	...	...	...	12,58,963	
Ditto for 1888-89	...	...	...	71,820	
Total				13,30,783	

REVENUE ACCOUNT.

## 3.—REVENUE ACCOUNT—(Actuals).

	EXPENDITURE.			RECEIPTS.	
	During 1888-89.	To end of 1888-89.		During 1888-89.	To end of 1888-89.
DIRECT CHARGES.					
	Ra.	Ra.		Ra.	Ra.
I.—Works, maintenance and repairs.			Water-rates	...	2,611
Works (extensions and improvements)	1,718	4,751	Navigation	53,921	8,08,635
Maintenance and repairs	50,920	4,70,616	Miscellaneous	1,249	19,377
Establishment, including direction and accounts	16,572	1,14,398	Total	55,170	8,25,623
Tools and plant	2,868	24,471			
Total	72,078	6,14,236			
II.—Revenue management.			Less—Refunds of revenue	73	983
Navigation establishment	3,195	53,050	Net total receipts...	55,097	8,24,640
Total direct charges	75,273	6,67,286			
INDIRECT CHARGES.*					
Capitalized abatement of land revenue	...	...			
Leave and pension allowances	2,767	26,240			
Total indirect charges...	2,767	26,240			
Total working expenses	78,040	6,93,526			
Profit	(—)22,943	1,31,114			
Total	55,097	8,24,640			

\*These are now shown under the suggestion of the Government of India.

53. The usual particulars regarding the traffic on the Hidgellee Tidal Canal since the year 1879-80 are given in the following statement:—

TRAFFIC.

PARTICULARS.	1879-80.	1880-81.	1881-82.	1882-83.	1883-84.	1884-85.	1885-86.	1886-87.	1887-88.	1888-89.
Miles open ... ..	No. 20	20	20	20	20	20	20	20	20	20
Toll collections ... ..	Rs. 44,918	53,388	45,444	48,604	53,817	41,343	52,143	51,004	40,406	53,910
Rate of toll per mile ...	Rs. 1548-00	1639-20	1341-00	1510-00	2148-00	1427-00	1798-00	1799-79	1303-31	1854-95
Number of boats ... ..	No. 16,311	21,745	20,057	17,445	22,728	17,660	19,316	17,642	13,563	16,481
Tonnage of boats ... ..	Tons. 120,731	152,781	133,000	132,884	194,764	145,664	163,535	140,747	124,903	145,035
Passengers carried ... ..	No. 2,051	2,531	2,226	2,510	...	...	...	5,680	11,951	24,633
Estimated value of cargo, including ... ..	Rs. 22,00,001	22,24,731	21,19,055	23,53,244	25,42,029	20,06,952	22,74,061	21,46,226	20,12,851	23,01,123

The receipts from tolls during the year under review amounted to Rs. 53,910 against Rs. 40,406 for the previous year, thus showing an increase of Rs. 13,504. The previous year was a year of partial closure of canal for silt clearance.

54. The only receipts other than tolls are miscellaneous. These amounted to Rs. 1,260 against Rs. 1,452 of the previous year.

MISCELLANEOUS.

55. The following statement shows the receipts on revenue account and working expenses of the canal for the last ten years:—

FINANCIAL RESULTS.

PARTICULARS.	1879-80.	1880-81.	1881-82.	1882-83.	1883-84.	1884-85.	1885-86.	1886-87.	1887-88.	1888-89.
<b>Receipts.</b>	<b>Rs.</b>	<b>Rs.</b>	<b>Rs.</b>	<b>Rs.</b>	<b>Rs.</b>	<b>Rs.</b>	<b>Rs.</b>	<b>Rs.</b>	<b>Rs.</b>	<b>Rs.</b>
Navigation ... ..	44,918	53,388	45,444	48,604	53,817	41,343	52,143	51,004	40,406	53,910
Miscellaneous ... ..	653	1,140	1,440	1,338	1,273	2,125	812	2,600	1,452	1,260
<b>Total</b> ... ..	<b>45,571</b>	<b>54,528</b>	<b>46,884</b>	<b>49,942</b>	<b>55,090</b>	<b>43,468</b>	<b>52,955</b>	<b>53,604</b>	<b>41,858</b>	<b>55,170</b>
Less refunds of revenue ... ..	...	...	...	...	...	...	...	912	...	73
<b>Net total receipts</b> ... ..	<b>45,571</b>	<b>54,528</b>	<b>46,884</b>	<b>49,942</b>	<b>55,090</b>	<b>43,468</b>	<b>52,955</b>	<b>52,692</b>	<b>41,858</b>	<b>55,097</b>
<b>WORKING EXPENSES.</b>										
<b>DIRECT CHARGES.</b>										
<i>I.—Works, maintenance and repairs.</i>										
Works ... ..	...	1,896	1,147	...	...	...	...	...	...	1,718
Repairs ... ..	20,007	17,018	16,331	20,460	22,904	26,093	24,000	11,988	67,924	50,920
Establishment, including direction and accounts ...	9,794	2,200	4,497	9,775	7,643	6,178	7,843	2,786	11,453	16,572
Tools and plant ... ..	...	1,444	1,336	1,302	2,744	222	2,524	4,165	2,103	2,868
<b>Total</b> ... ..	<b>29,801</b>	<b>22,554</b>	<b>18,800</b>	<b>31,737</b>	<b>33,266</b>	<b>32,332</b>	<b>34,400</b>	<b>18,899</b>	<b>81,566</b>	<b>72,078</b>
<i>II.—Revenue management.</i>										
Navigation establishment ... ..	2,023	2,054	2,000	2,973	2,715	2,554	2,143	3,020	3,007	2,193
<b>Total direct charges</b> ... ..	<b>42,224</b>	<b>24,608</b>	<b>20,800</b>	<b>44,710</b>	<b>45,981</b>	<b>34,886</b>	<b>46,543</b>	<b>21,919</b>	<b>84,573</b>	<b>74,271</b>
Indirect charges ... ..	2,071	950	1,306	1,327	1,512	1,302	1,534	510	2,061	2,767
<b>Total working expenses</b> ... ..	<b>44,295</b>	<b>25,558</b>	<b>22,106</b>	<b>46,037</b>	<b>47,493</b>	<b>36,188</b>	<b>48,077</b>	<b>22,429</b>	<b>86,634</b>	<b>77,038</b>
<b>Net revenue</b> ... ..	<b>1,476</b>	<b>28,970</b>	<b>24,778</b>	<b>3,905</b>	<b>7,597</b>	<b>7,282</b>	<b>4,878</b>	<b>30,263</b>	<b>(- ) 44,776</b>	<b>(- ) 21,941</b>

The deficit in the year's working, notwithstanding a substantial increase of Rs. 13,239 in the receipts, was anticipated in the Chief Engineer's note of last year, where it was stated that of the charges incurred for the thorough clearing of the channels in 1887-88, a large sum would not be paid till the following year. The actual amount of these payments was Rs. 39,580. The influx of silt was largely due to the deterioration which has taken place in the condition of the Russulpore river, from which the canal was formerly supplied. Since the completion of the last silt clearance the feed has been exclusively taken in at the Huldee river, and it is hoped that another closure may not be found necessary for three seasons.

56. After the heavy rains at the end of August, the southern portion of the district of Midnapore was visited by floods of great severity, and the incapacity of the natural drainage channels to relieve the inundated tracts was investigated by a committee of enquiry. The brunt of the inundation fell on the tract of country adjoining range III of the Orissa coast canal. Regarding the Hidgellee canal, it appeared that though the drainage of parts of the affected area had been to some extent obstructed by it, yet this obstruction was not one of the main causes of the floods, and any injury so caused was more than counterbalanced by the enormous benefits conferred on landlords and ryots by the protective works constructed by Government. The defects in the arrangements for passing drainage water across the canals are now being remedied, and it is hoped that by the lowering of the bed, which is a feature in the recently-sanctioned scheme for remodelling the canal, complete facilities for drainage will be afforded. The damage done to the canal was not such as to require special expenditure beyond that provided in the regular maintenance estimates.

FLOODS.

## SONE CANALS.

CAPITAL ACCOUNT. 57. The Capital, Interest and Revenue Accounts of these canals are given below:—

## 1.—CAPITAL ACCOUNT.

HEADS OF ACCOUNT.				Outlay during 1-88-89.	Outlay to end of 1888-89.
DIRECT CHARGES.				Rs.	Rs.
I.—Works	...	...	...	93,250	1,81,56,556
II.—Establishment	...	...	...	20,691	50,81,927
III.—Tools and plant	...	...	...	21,776	21,12,865
IV.—Suspense accounts	...	...	...	12,770	1,88,341
Loss by exchange	...	...	...	.....	52,240
Total				1,48,487	2,55,91,919
V.—Less receipts on Capital account	...	...	...	44	3,07,287
Net total direct charges				1,48,443	2,52,84,682
INDIRECT CHARGES.					
Capitalization of abatement of land revenue	...	...	...	.....	37,834
Leave and pension allowances	...	...	...	2,897	8,60,725
Total indirect charges				2,897	8,98,559

## 2.—INTEREST ACCOUNT.

INTEREST ACCOUNT.

		Rs.
Interest charges to end of 1887-88	...	1,25,23,898
Ditto for 1888-89	...	10,08,418
Total	...	1,35,32,306

## 3.—REVENUE ACCOUNT (actuals).

REVENUE ACCOUNT.

	EXPENDITURE			RECEIPTS	
	During 1888-89.	To end of 1888-89.		During 1888-89.	To end of 1888-89.
DIRECT CHARGES.	Rs.	Rs.		Rs.	Rs.
I.—Works, Maintenance and Repairs.					
Works (extensions and improvements) ...	10,426	15,958	Water-rates ...	7,59,556	68,75,460
Repairs ...	8,28,182	35,43,798			
Compensation ...	.....	2,463	Navigation ..	57,829	6,77,467
Establishment, including direction and accounts	1,97,677	11,40,593	Miscellaneous	26,504	4,36,466
Tools and plant ...	83,920	2,08,592			
Total ...	5,70,205	42,11,404	Total ...	8,43,889	79,89,893
II.—Revenue Management.					
Irrigation establishment.	1,58,249	13,23,848	Less refunds of revenue ...	12,611	74,394
Navigation establishment.	14,165	1,70,129			
Total ...	1,72,414	14,93,977			
Total direct charges ...	7,42,619	64,05,381	Net total receipts ...	8,31,278	79,14,999
INDIRECT CHARGES.*					
Capitalized abatement of land revenue ...	.....	.....			
Leave and pension allowances ...	51,813	3,85,940			
Total indirect charges ...	51,813	3,85,940			
Total working expenses	7,94,432	67,91,321			
Profit ...	36,846	11,23,678			
Total ...	8,31,278	79,14,999			

\* These are now shown under the suggestion of the Government of India.

The expenditure on capital account during the year was Rs. 1,48,443. The principal works carried out were docks at Bedadi, Nasriganj, and Daodnugger; a warehouse at Bedadi, a syphon aqueduct at mile 10½, Domraon Branch canal, and numerous permanent outlets in all divisions. The following works were all but completed at the close of the year:—Docks at Baroon Urwal, and Deegah; the Tejpoora distributary taking off from the Patna canal and the Bacheri drainage cut; Telegraph offices at Baroon, Nasriganj and Ugeon; the Rewah escape, and several minor works.

58. The income calculated on "Earnings" of the year and expenditure are shown below:—

EARNINGS.

EXPENDITURE.	Amount.	Earnings.	Amount.
	Rs.		Rs.
<b>DIRECT CHARGES.</b>			
<i>I.—Works, Maintenance and Repairs.</i>		Water-rates ... ..	8,05,790
Works (extensions and improvements) ... ..	10,426	Navigation ... ..	57,829
Repairs ... ..	3,28,182	Miscellaneous ... ..	26,504
Establishment, including direction and accounts ... ..	1,97,677	Total ... ..	8,90,123
Tools and plant ... ..	33,920	Less refunds of revenue ... ..	12,611
Total ... ..	5,70,205	Net total earnings ... ..	8,77,512
<i>II.—Revenue Management.</i>			
Irrigation establishment ... ..	1,58,249		
Navigation ditto ... ..	14,165		
Total ... ..	1,72,414		
Total direct charges ... ..	7,42,619		
<b>INDIRECT CHARGES.</b>			
Capitalized abatement of land revenue ... ..	51,813		
Leave and pension allowances ..	51,813		
Total indirect charges ... ..	51,813		
Total working expenses ... ..	7,94,432		
Profit ... ..	88,080		
Total ... ..	8,77,512		

The water rates now shown as "earned" are the assessments on the irrigation of the year, and include for the first time those assessments which were not completed until after the close of the year.

59. The following table shows the lengths of canals and distributaries open and the areas commanded and irrigable:—

LENGTHS OF  
CANALS AND  
DISTRIBUTARIES.

DIVISION.	Navigable canals.	Branch canals.	Distributaries.	Gross area under command.	Maximum discharge of canal.	AREA WHICH CAN BE IRRIGATED.		
						Kharif.	Rabi.	Total.
	Miles.	Miles.	Miles.	Acres.	Cubic feet per second.	Acres.	Acres.	Acres.
Eastern Sone ... ..	20½	...	88½	400,155	1,613	120,040	180,000	300,040
Arwah ... ..	24½	71½	407½	818,354	2	247,800	260,000	707,800
Buzar ... ..	5½	77½	343	704,000	4,342	...	...	...
Total ... ..	22½	148½	1,109½	1,728,609	5,095	478,400	660,000	1,010,400

An addition of 1½ miles has been made to the length of distributaries during the year. There are, besides the distributaries included in the



above return, 14 miles of village channel maintained at the cost of Government in the Buxar Division. There is no change in the areas commanded and irrigable; the provision of parallel channels along part of the Buxar canal has, however, enabled land in their neighbourhood to be more easily and satisfactorily supplied with water, and will eventually result in some increase in the area under irrigation.

VILLAGE CHANNELS  
AND OUTLETS.

60. The following table shows the progress made with village channels and outlets:—

DIVISION.				Total length of village channels completed.	Total number of temporary and permanent outlets.	Number of permanent outlets.
				Miles.	No.	No.
Eastern Sone	...	...	...	204½	2,083	320
Arrah	...	...	...	768½	2,330	737
Buxar	...	...	...	511½	984	274
Total, 1888-89				1,484½	5,397	1,331
Total, 1887-88				1,525	5,999	828

Of the village channels now in use, 185½ miles have been constructed by Government agency and 1,299 by villagers. The figures as regards channels constructed by villagers are only approximate, and the decrease in the total length is partially due to this cause; it is, however, mainly owing to the reduction in the number of outlets from 5,999 to 5,397, which has been accompanied by an increase in the area under irrigation. The construction of permanent outlets was pushed on during the year, 503 having been built in carefully chosen situations with a discharging capacity proportioned as nearly as possible to the area under lease or likely to be irrigated.

RAINFALL.

61. The following statements furnish the rainfall statistics of the Sone canal system and the distribution by canal divisions for the last five years:—

				AVERAGE OF 22 STATIONS.				
				1888-89.	1887-88.	1886-87.	1885-86.	1884-85.
				Inches.	Inches.	Inches.	Inches.	Inches.
Kharif season	August	...	...	18.49	9.49	11.73	16.69	9.69
	September	...	...	7.35	6.24	12.51	10.57	5.41
	October	...	...	0.18	4.19	8.33	0.34	2.50
	Total	...	...	26.02	19.90	32.57	27.60	18.00
Rabi season	November	...	...	0.46	...	0.23	...	...
	December	...	...	...	...	0.32	2.45	...
	January	...	...	1.22	1.09	1.47	0.10	0.55
	February	...	...	1.30	...	...	0.11	0.03
Total				2.98	1.09	1.92	2.66	0.58
Whole year				47.34	40.31	59.24	44.99	30.29

YEARS.	EASTERN SONE DIVISION.			ARRAH DIVISION.			BUXAR DIVISION.		
	Kharif season.	Rabi season.	Whole year.	Kharif season.	Rabi season.	Whole year.	Kharif season.	Rabi season.	Whole year.
	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
1888-89	25.73	2.46	46.39	25.14	2.35	46.46	24.87	2.22	43.34
1887-88	14.75	0.92	34.11	24.69	1.48	43.57	24.43	1.23	36.18
1886-87	34.61	1.73	46.34	24.66	1.63	43.39	25.46	1.75	31.00
1885-86	30.33	2.15	46.54	27.02	2.34	44.69	27.43	2.05	41.39
1884-85	17.11	0.49	34.67	13.34	0.34	31.03	30.96	0.09	31.07

The Superintending Engineer reports:—"The rainfall for the year (46.43 inches), average for all stations, over the area commanded by the Sone Canals was, it will be noted, considerably in excess of that which fell in the year preceding (40.18 inches), and it was also in excess of the average for 20 years (41.25

inches). The chief characteristics of the season, as regards rainfall, were—*First*, the late date at which the rains commenced. No rain fell at Arrah until the 2nd July, and the rains throughout the area irrigable may be said to have commenced on this date. *Secondly*, the favourable rainfall during July, August, and the first ten days of September. *Thirdly*, the almost entire cessation of the rains from the 11th of September to the 29th of November, the average fall over all canal stations for that period being 1.47 inches only. *Fourthly*, the wide variation in the falls at different stations ranging for the year from 39.03 inches at Sikroul to 52.07 inches at Nasrigunge. This variation had only a comparatively small effect on the area irrigated, as up to the 10th of September the rainfall may be said to have been generally favourable."

62. The following statement shows the area leased and irrigated during the last four years:—

DESCRIPTION.	1888-89.		1887-88.		1886-87.		1885-86.	
	Leased.	Irrigated.	Leased.	Irrigated.	Leased.	Irrigated.	Leased.	Irrigated.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Five-year leases	260,375	200,102	210,330	210,161	191,410	194,656	173,829	179,784
Annual leases—								
Kharif	71,594	69,028	43,034	67,401	27,233	50,022	62,107	80,798
Rabi	61,119	60,817	16,784	27,511	16,639	10,652	31,764	50,010
Sugarcane	4,639	4,601	5,891	6,265	5,492	11,666	6,186	10,527
Hot-weather	9,038	11,762	9,313	17,886	8,010	15,278	6,117	16,867
Total annual leases	146,390	146,207	75,022	112,863	57,384	77,618	106,174	158,202
GRAND TOTAL	406,765	346,309	285,352	323,024	248,794	272,274	279,003	337,986
Percentage of leased to irrigated area	97.12		89.89		92.02		88.89	

The area irrigated was in excess of any year to date, except 1884-85, when the area irrigated was 370,661 acres. The area under annual leases during the kharif season exceeds the area irrigated. This is partly due to areas leased late in October, to which water could not be supplied in time to be of service, but mainly to the strenuous efforts which were made to confine the water within the leased areas. Unauthorized irrigation in the kharif season has practically disappeared.

It will be noticed that compared with the previous year there has been a decrease of 10,260 acres under five-years' lease. It is not to be inferred that there has been any reduction on the area actually irrigated. Applications for five-year leases for 15,050 acres were either declined by the Canal Officers or withdrawn, chiefly the former for reasons given in the extract from the Sub-Engineer's report quoted in the next succeeding paragraph.

The Sub-Engineer was given authority to cancel five-year leases with the result that no single application was declined, and leases for 1,456 acres only cancelled. This may be taken, with leases for 529 acres subsequently cancelled, as the full area on which the lessees were dissatisfied with their bargain.

Out of the 200,102 acres irrigated under five-years' lease, it is estimated that 154,825 acres, or 77.3 per cent., were cultivated under kharif; 27,408 acres, or 13.6 per cent., under rabi; and 17,869 acres, or 8.9 per cent., under sugarcane crops.

The statement below shows the area irrigated during the year and the two preceding, as well as 1884-85, the largest on record, classified by crops—

	1888-89.	1887-88.	Difference.	1886-87.	1884-85.
	Acres.	Acres.	Acres.	Acres.	Acres.
Kharif	224,453	220,428	+ 4,025	177,510	216,710
Rabi	97,226	60,090	+ 41,135	45,361	99,280
Sugarcane	32,469	25,007	+ 2,534	30,065	23,682
Total	354,147	305,525	+ 48,622	252,936	339,672
Add—Hot-weather irrigation	11,762	18,855	+ 2,093	15,278	969
Grand Total	365,909	324,380	+ 41,529	268,214	340,641

In 1887-88 there was a sharp demand for canal water during the kharif season checked by a copious fall of rain on the 13th October which had an important effect in limiting the area under rabi irrigation during that year. The year under review is perhaps more fitly comparable with 1884-85, in which 14,702 acres more were irrigated. The rainfall in 1888-89 was 45.43 inches for the year and 24.61 inches during the kharif season, the corresponding figures for 1884-85 being 30.26 inches and 18.00 inches; the period of great demand being during October in 1889 and during August and September in 1884.

63. The system pursued was not altogether the same. In 1884-85 but little attempt was made to restrict the supply of water to the area under lease, and irrigation previous to the issue of a permit was not rigorously suppressed, nor were the rules regarding the existence of proper village channels enforced. In 1888-89 the most strenuous efforts were made to prevent unauthorized irrigation, and generally to enforce the provisions of the law and rules. The procedure adopted is detailed in the extract from the Superintending Engineer's report quoted below:—

"Up to the middle of September the season, though the rains were late in commencing, was not unfavourable, but from the commencement of the *Hathia*, the 26th of September, rain was eagerly looked for, and none falling by the beginning of the *Chitra*, the 9th of October, the demand for canal water became urgent and pressing. Applications for permits poured in from all sides, and the greatest eagerness to irrigate leased areas was manifested.

"It had been determined at the beginning of the season to abstain from in any way pressing cultivators to enter into leases. Whilst every possible assistance was given, if desired, they were left to decide the matter entirely in accordance with their own view of their own interests. When applications were tendered, the size of outlet allowed was fixed as nearly as possible in accordance with the discharge required to irrigate the area proposed to be leased, so that unauthorized irrigation on any considerable scale would not be possible. It was explained that a *fatil* would be enforced. These measures were in some localities not popular, and several applications were in consequence not completed. Many applications for leases, five-year and annual, were refused until proper channels were provided, and altogether declined where there was doubt as to the supply of water available, or where the block proposed was such that unauthorized irrigation was certain to occur. These causes and the hope that holding off from applying for leases might induce Government to reduce the water-rates had considerable effect in lessening the area under lease when the urgent demand for water commenced about the 3rd of October. In many cases it was then too late; channels could not be provided in time, nor could water be given within the few days during which the crop could live without irrigation."

The area irrigated in October was in fact practically limited only by the quantity of water available, and the facilities which existed or could be improvised for leading it to the fields. From the 16th to the 25th of October, an average of 2,415 cubic feet of water per second were passed down the Arrah canal, which was designed to carry 1,660 cubic feet per second only. In 1884-85 the sharp demand occurred in August and September, so that the time during which irrigation could be usefully effected was more protracted, and under the same circumstances, the area irrigated in 1888-89 would probably have been in excess of the results of that year. Of the late irrigation about 5,000 acres reported as leased or irrigated chiefly in the Arrah Division could not be assessed on various grounds, and if the financial interests of the canals were the only consideration, there is little doubt that it would be best to refuse permits after the 20th of September. It is a matter for consideration whether under such circumstances previous payment in part at least should not be insisted on. The area noted above, having been decided not to have been irrigated in a legal sense, has been excluded from all the returns.

There was a general failure of the rains in Behar, so that it was considered desirable that an account of the kharif irrigation of the year for the Sone canals should be published at an early date for general information. A note on the subject was accordingly published in the *Calcutta Gazette* for the 9th January 1889.

The large increase in the rabi irrigation was chiefly due to there being no rain in October and November, though the reduction in rate of from Rs. 2.8 to Rs. 2 per acre for flow irrigation for the year only had some influence in inducing applications, the major part of which must in any case have been filed, as the ground was so dry that the seeds would not germinate without artificial irrigation.

64. Whatever difference of opinion may exist as to the procedure to be adopted as regards irrigation or the rates to be charged, the advantage reaped by the country generally from the Sone canals during 1888-89 is unquestionable, and the Superintending Engineer appears to have full justification for the observations made in the extract from his report which follows:—

"There can be no doubt as to the benefits the Sone canals conferred on the districts which they traverse during the year 1888-89. The failure of the rice crop outside the area commanded by the Sone canals was nearly complete; the aharas in which there was any water in the first week of October being few and far between. The situation was complicated by the necessity of blocking early in October four vents in the Dehra river sluices of the Sone weir. As narrated in an extract from a report on the kharif irrigation of the year, quoted in paragraph 4, this operation was carried out in 15 hours, during which time only was the supply of the canals partially shut off. There was at the time considerable sickness amongst the sectional officers, and substitutes, even inefficient, could not be procured. The brunt of the work fell on the Subdivisional officers amongst whom were one European and three native upper subordinates, and sick or well, they threw themselves into the work with a vigour which in my opinion deserves the commendation of Government. The Divisional officers were no less energetic and self-sacrificing in directing operations. The result of the efforts made is generally admitted to have been successful. A pamphlet by a native gentleman, a pleader and landowner, in which a view, certainly not favourable to canal irrigation, is taken, thus speaks of the operations of the year:—'It is almost admitted that in the year under review the canal authorities have worked better in all the departments than in previous years. The supply of water was satisfactory, the prayers of the cultivators were attended to, and, generally speaking, the arrangements were good.' It is fair to say that he adds:—'In fact, the successful management of this year carries with itself condemnation of the system.' The main difference between the system adopted during the year and that previously in force was the determined effort made to prevent water being taken until permits had been granted. The supply of water was rigorously limited to the area leased, and criminal prosecutions instituted, wherever possible, when water was misappropriated. The system was somewhat relaxed after the 10th of October with decidedly unfavourable financial results to Government, but some benefit to the cultivators. It was remarked in last year's report that efforts were made to remove all well-founded grounds of complaint brought to light during the sittings of the Sone Canal Committee, and this policy was continued during the year. It is fully recognized that lasting contentment will only result by securing irrigating cultivators full crops, and that anything short of this standard will, whatever may be the measure of the benefits derived compared with the water-rates paid, lead to complaints which, though ill-founded, are to be avoided."

65. The areas actually irrigated in each of the executive divisions during the last five years are shown below:—

AC.	MARTEN SOLE DIVISION.				AERAN DIVISION.				BUXAR DIVISION.				TOTAL FOR ALL DIVISIONS.			
	Annual leases.		Five-year leases.	Total.	Annual leases.		Five-year leases.	Total.	Annual leases.		Five-year leases.	Total.	Annual leases.		Five-year leases.	Total.
	Kharif and rabi.	Sugarcane and hot-weather.			Kharif and rabi.	Sugarcane and hot-weather.			Kharif and rabi.	Sugarcane and hot-weather.			Kharif and rabi.	Sugarcane and hot-weather.		
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
...	46,581	1,329	25,136	72,995	97,490	4,586	82,573	144,619	64,909	4,137	43,801	113,647	28,930	10,731	151,510	370,661
...	20,294	1,041	27,948	49,283	54,961	6,931	91,332	157,011	60,143	13,823	60,607	135,563	131,402	31,383	179,784	332,570
...	11,869	1,516	21,194	47,879	51,719	20,300	98,737	140,747	13,103	5,238	61,626	87,078	46,744	24,904	104,656	268,344
...	20,399	679	40,123	61,201	25,948	13,079	102,423	141,474	38,716	6,362	67,618	112,696	85,090	20,150	210,164	315,380
...	29,470	403	37,117	66,990	63,280	11,591	101,489	165,740	57,706	4,363	61,496	123,565	139,115	16,362	300,102	385,969

The reduction in the area under five-year lease is due as has been mentioned in paragraph 62 above to leases being refused where the channels were not in good order or the blocks unsuitable. In some cases applications were withdrawn, as the cultivators were unwilling to accept the outlets proposed which are now recorded in the permit.

The proportion of flow to lift irrigation for the last five years is shown below:—

Proportion	1885-86.		1887-88.		1889-90.		1891-92.		1893-94.	
	Flow.	Lift.	Flow.	Lift.	Flow.	Lift.	Flow.	Lift.	Flow.	Lift.
	93.4	6.5	95.2	4.8	96.5	3.5	98	2	99	1



DUTY OF WATER 66. The following statement shows the duty obtaining in the year under review and in the years 1887-88 and 1884-85:—

			Eastern Main Canal Series.	Arrah Canal System.	Buxar Canal System.	Western Main Canal Series.	Sone Canals.
1888-89	Kharif	{ Acres	55,559	120,758	70,605	191,353	246,923
		{ Duty on gross supply	49.4	68.7	80.1	71.8	65.2
	Rabi	{ Acres	15,547	47,165	56,982	104,147	119,694
		{ Duty on supply utilized	58.5	73.01	94.9	83.5	78.7
1887-88	Kharif	{ Acres	54,733	112,505	78,197	190,702	245,435
		{ Duty on gross supply	54.4	85.5	81.2	82.4	73.9
	Rabi	{ Acres	11,111	31,590	38,396	69,286	81,097
		{ Duty on supply utilized	43.9	65.9	84.9	75.09	68.5
1885-86	Kharif	{ Acres	39,532	1,21,441	80,661	205,102	244,634
		{ Duty on gross supply	45.4	88.7	97.0	93.6	79.9
	Rabi	{ Acres	12,324	44,916	47,371	92,317	104,641
		{ Duty on supply utilized	42.6	128.0	116.1	121.7	99.0
1884-85	Kharif	{ Acres	61,849	133,307	75,266	208,573	270,423
		{ Duty on gross supply	47.1	79.1	74.3	74.2	65.6
	Rabi	{ Acres	13,103	64,125	45,734	109,859	122,962
		{ Duty on supply utilized	37.2	142.5	157.7	148.4	112.6

N.B.—Sugarcane is included in both kharif and rabi.

As the year 1884-85 was that in which the largest area was irrigated, it has been selected for comparison in place of 1886-87, which was a year of such plentiful rainfall that as stated last year its results are not of much value as standards of comparison.

The main result for 1888-89 the duty in the kharif season for the Sone canals, 65.2 acres, per cubic foot per second of gross supply approaches very nearly to 65.6, the figures for 1884-85, although in the latter year the rainfall was much more favourable.

For a short base, ten days (11th to 20th October 1889) against fourteen days (29th September to 12th October 1887), the duty on the rice crop alone for the Sone canals falls to 42.3 acres in 1888-89, against 45 acres in 1887-88.

In the Arrah Division the quantity of canal water utilized in irrigation during the four months July to October is calculated by Mr. Inglis, Executive Engineer, Arrah Division, to be equivalent to 2.93 feet over the area watered in 1888-89, and 2.6 feet in 1887-88. Taking the drainage area, it is equivalent to 7.2 inches of rainfall of effective rainfall, against 5.7 inches in the previous year.

The Superintending Engineer gives the particulars tabulated below regarding some experiments carried out in the Arrah Division on the quantity of water used in irrigating definite areas from specified outlets:—

Distributary.	Size of outlet.	Number of days discharging.	Average discharge.	Area irrigated.	Area irrigated per cubic foot per second.	Date from which open.
Bichiaon	9" x 12"	11	2.8	54.16	2.76	2nd October 1888.
Kaithi	9" diam.	11	2.37	45.6	1.74	6th August "
Kaithi	Same outlet	11	2.72	42.28	1.41	23rd Sept. "
Kaithi	6" diam.	12	1.09	21.0	1.6	Ditto "
Behcea R. P. C.	15" x 18"	9	3.46	116.4	3.46	3rd October "

The results are discordant, and the omission of information as to the nature of the soil, the distance of the outlet from the block irrigated, the number of days elapsed since the last irrigation and since the last rainfall, and the extent of the latter in inches, &c., prevents any useful deductions being made. At the same time the experiments point to a direction in which much useful work can be done, as with a demand in the kharif season, which even now the canals are unable to meet it, is imperative that whilst a sufficient supply of water shall be allowed the utmost economy, which can only be effected at the outlet, should be practised.



The duty in the rabi season was slightly higher than in the previous year. The matter is not of practical importance, as the area of rabi crops irrigated did not nearly approach that for which water was available.

67. The results of experiments carried out by canal officers on the outturn of crops irrigated by canals and otherwise have been noticed in former reports. The evidence given before the Sone Canals Committee showed that the value of these experiments was questioned, and accordingly in 1888-89 the matter received more than ordinary care. The extract from the Superintending Engineer's report quoted below deals with the difficulties experienced in obtaining comparative results, and narrates the course pursued during the year under review:—

CROP EXPERI-  
MENTS.

"Former reports have compared the yield of crops irrigated by the canals and those matured without their aid. It has always been recognized that crop experiments, whilst valuable as showing the quantities of grain and straw produced in each case, could not be relied on as an absolute test of the producing power of the land under canal and non-canal irrigation. It was not possible to select plots cultivated under precisely similar conditions, differing only in the means of irrigation employed, and in many parts of the country it was difficult to find rice crops not under canal irrigation. Again, it had been asserted before the Sone Canals Committee that not only was the crop produced by the aid of canal water inferior, but that the longer the land was irrigated, the less the produce became. Complaints were also made that the experiments were not conducted under conditions where the public could have the opportunity of being present and watching the process. Independently of the circumstances of the year, it had been determined to confine the experiment for the most part to canal-irrigated crops, and, as a matter of fact, no other course would have been possible, as rice crop over the area commanded failed where canal irrigation was not available.

"The services of a Covenanted Civilian were placed at the disposal of the Public Works Department, so that the result of a series of experiments carried out by an officer not belonging to the Canal Department might be recorded. The co-operation of Messrs. Burrows, Thomson and Mylne, who have always been ready to assist, in every way, the officers of the Irrigation Department, was solicited, and the Collectors of the districts concerned asked to instruct Subdivisional Magistrates to themselves make a few experiments if possible. In the case of experiments carried out by canal officers, the nearest Magistrates, as well as zemindars and ryots, were asked to be present. The publicity thus given to the experiments did not, in all cases, meet with the approval of the cultivators, who would have preferred the matter to have remained a subject of controversy. The instructions issued were to the effect that the crops experimented on should be good crops, and that the weighment should take place on the field."

The results of the experiments are given in the table which follows, which is abstracted from the figures contained in Mr. Lusson's report:—

Crop.	Name of officer conducting experiments.	Number of experiments.	Average yield, dhan.		Number of experiments.	Average yield, straw.	
			Mds.	s.		Mds.	s.
Transplanted ...	Mr. H. Lusson, c.s. ...	25	33	39½	25	47	17½
Aghani dhan ...	Messrs Burrows, Thomson, and Mylne ...	26	31	5½	26	52	22½
	Canal Subdivisional Officers ...	33	35	6½	31	68	14½
	Canal subordinates ...	138	31	30½	134	55	38½
Kartika dhan...	Mr. H. Lusson, c.s. ...	3	35	1½	3	46	36½
	Messrs. Burrows, Thomson, and Mylne ...	25	26	37¾	25	46	5½
	Mr. G. C. Maconchy, c.e. ...	2	31	4½	2	56	29½
	Subordinate, Agiaon ...	1	14	19½	1	33	6
Broadcast dhan	Mr. H. Lusson, c.s. ...	2	22	22	2	31	22½
	Messrs Burrows, Thomson, and Mylne ...	1	23	14	1	36	32
	Canal Subdivisional Officers ...	3	37	11½	1	54	0
	Canal subordinates ...	2	33	7½	2	39	13½
	Average ...	261	31	32½	253	54	32½

The figures given above are not the actual weighments, but the weighments reduced by one-twelfth in the case of dhan and one-third in the case of straw in those cases where the crop was weighed wet on the field, this representing the loss which Mr. Lusson found by actual experiment to occur in drying.

It must not be forgotten that the experiments were not on the yield of average crops, which were those selected in former years, but of the yield of the best crops. Mr. Lusson, however, states that after a personal inspection of